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**Sensitive Plants of the
Malheur, Ochoco, Umatilla,
and the
Wallowa-Whitman National Forests**



By

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All drawings have been used with permission from:

Vascular Plants of the Pacific Northwest, by Hitchcock, et al (1955, 1959, 1961, 1964, and 1969).

Except:

Artemisia ludoviciana ssp. *estesii*, and *Thelypodium eucosmum* (detail of fruit); by Eugene Yates, unpublished, used with permission of the artist.

Calochortus longebarbatus var. *peckii*, by Linda Vorobik; from Threatened and Endangered Vascular Plants of Oregon: An Illustrated Guide. U.S. Fish and Wildlife Service, Portland, OR. 1982.

Lomatium erythrocarpum, from Bulletin of the Torrey Botanical Club, Vol. III, No. 2, June 1984.

Mimulus hymenophyllum, by Linda Vorobik, from Madrono, Vol. 30, No. 3, July 1983.

Leptodactylon pungens subsp. *hazeliae*, from Madrono, Vol. 35, No. 2, 1988.

INTRODUCTION

The purpose of this plant identification guide is to provide a ready field reference for assisting in the determination that a particular plant is of a sensitive species. The guide is written to provide comparisons with similar species that "look like" the sensitive species. It is hoped that this guide will forestall the need to pack floras with wider ranges of coverage in daily field activities by the resource manager, specialist or crew member. The guide is not the ultimate authority, however. District and Forest botanists, ecologists, and botanical specialists should be consulted relative to proper identification of specimens.

The guide is loose-leaf to enable the Forests to delete or add pages as changes occur. The Forests can add supplemental non-published pages dealing with location information, watch list species and other information which changes on an annual basis. We urge the Forests to add collecting help information and to provide procedural information when a sensitive plant or population is encountered.

Photographs are missing for some plants. This emphasizes the need to include photography of sensitive plants and to submit copies of 35mm slides or negatives of color prints to the Forest or District botanists. Color prints can then be made for insertion into this guide where pictures are lacking.

The key features differentiating the sensitive plant species from other "look-alike" species are highlighted on the line drawing page.



SPECIES LIST



SPECIES LIST BY SCIENTIFIC NAME

Scientific Name	Code	Common Name
<i>Allium brandegeei</i>	ALBR	Brandegee's Onion
<i>Allium campanulatum</i>	ALCA	Sierra Onion
<i>Allium dictuon</i>	ALDI	Blue Mountain Onion
<i>Allium geyeri</i> var. <i>geyeri</i>	ALGEG	Geyer's Onion
<i>Artemisia ludoviciana</i> ssp. "estesii"	ARLUE	Estes' Wormwood
<i>Asplenium trichomanes-</i> <i>ramosum</i>	ASVI	Green Spleenwort
<i>Aster sibiricus meritus</i>	ASSI2	Arctic Aster
<i>Astragalus arthuri</i>	ASAR3	Arthur's Milkvetch
<i>Astragalus atratus</i> var. <i>owyheensis</i>	ASATO	Owyhee Milk Vetch
<i>Astragalus diaphanus</i> <i>diurnus</i>	ASDI2	South Fork John Day Milk Vetch
<i>Astragalus howellii</i> var. <i>howellii</i>	ASHO2	Howell's Milkvetch
<i>Astragalus tegetarioides</i>	ASTE	Deschutes Milkvetch
<i>Betula papyrifera</i> var. <i>commutata</i>	BEPAC	Western Paper Birch
<i>Bolandra oregana</i>	BOOR	Oregon Bolandra
<i>Botrychium</i> spp.	BOTRY	Moonworts
<i>Bupleurum americanum</i>	BUAM	American Thorough-Wax
<i>Calochortus longebarbatus</i> var. <i>longebarbatus</i>	CALOL	Long-Bearded Mariposa
<i>Calochortus longebarbatus</i> var. <i>peckii</i>	CAL0P	Long-Bearded Sego Lily
<i>Calochortus nitidus</i>	CANI	Broadfruit Mariposa
<i>Campanula scabrella</i>	CASC	Rough Harebell
<i>Carex concinna</i>	CAC03	Low Northern Sedge
<i>Carex nova</i>	CANO	New Sedge
<i>Castilleja fraterna</i>	CAF'R2	Fraternal Paintbrush
<i>Castilleja rubida</i>	CARU3	Purple Alpine Paintbrush
<i>Cheilanthes feei</i>	CHFE	Fee's Lip Fern
<i>Cryptogramma stelleri</i>	CRST	Steller's Rock-Brake

<i>Cymopterus nivalis</i>	CYNI	Hayden's Cymopterus
<i>Cypripedium fasciculatum</i>	CYFA	Clustered Lady Slipper
<i>Dryopteris filix-mas</i>	DRFI	Male Fern
<i>Erigeron engelmanni</i> var. <i>davisii</i>	EREND	Engelmann's Daisy
<i>Geum rossi</i> var. <i>turbina-</i> <i>tum</i>	GEROT	Ross' Avens
<i>Halimolobos perplexa</i> var. <i>perplexa</i>	HAPEP	Puzzling Halimolobos
<i>Kobresia myosuroides</i>	KOMY	Bellard's Kobresia
<i>Kobresia simpliciuscula</i>	KOSI	Simple Kobresia
<i>Leptodactylon pungens</i> <i>ssp. hazeliae</i>	LEPUH	Prickly Phlox
<i>Lomatium erythrocarpum</i>	LOER	Red-Fruited Lomatium
<i>Lomatium greenmanii</i>	LOGR2	Greenman's Lomatium
<i>Lomatium salmoniflorum</i>	LOSA	Salmon-Flowered Lomat.
<i>Lophochlaena oregonia</i> (<i>Pleuropogon</i>)	PLOR	Oregon Semaphore Grass
<i>Luina serpentina</i>	LUSE2	Colonial Luina
<i>Lupinus cusickii</i>	LULEC2	Cusick's Lupine
<i>Lupinus sabinii</i>	LUSA2	Sabin's Lupine
<i>Lycopodium complanatum</i>	LYCO2	Ground Cedar
<i>Mimulus clivicola</i>	MICL	Bank Monkey-Flower
<i>Mimulus hymenophyllum</i>	MIHY	Membrane-Leaved Monkey-Flower
<i>Mimulus patulus</i>	MIPA	Stalk-Leaved Monkey-Flower
<i>Mimulus washingtonensis</i>	MIWA	Washington Monkey-Flower
<i>Mirabilis macfarlanei</i>	MIMA	Macfarlane's Four-O-Clock
<i>Orobanche pinorum</i>	ORPI	Pine Broomrape
<i>Oryzopsis hendersonii</i>	ORHE	Henderson's Ricegrass
<i>Pellaea bridgesii</i>	PEBR4	Bridge's Cliff-Brake
<i>Phacelia minutissima</i>	PHMI	Least Phacelia
<i>Phlox multiflora</i>	PHMU	Many-Flowered Phlox
<i>Physaria didymocarpa</i>	PHDI2	Common Twinpod
<i>Platanthera obtusata</i>	PLOB	Small Northern Bog Orchid
<i>Primula cusickiana</i>	PRCU	Cusick's Primrose
<i>Ranunculus oresterus</i>	RAOR2	Blue Mountain Butter-Cup
<i>Ribes cognatum</i>	RICO	Umatilla Gooseberry
<i>Ribes wolfii</i>	RIWO	Wolf's Currant
<i>Rubus bartonianus</i>	RUBA	Bartonberry
<i>Salix farriae</i>	SAFA	Farr's Willow

<i>Saxifraga adscendens</i> var. <i>oregonensis</i>	SAADO	Wedge-Leaf Saxifrage
<i>Senecio dimorphophyllus</i>	SEDI2	Payson's Groundsel
<i>Senecio porteri</i>	SEPO	Porter's Butterweed
<i>Silene spaldingii</i>	SISP2	Spalding's Silene
<i>Spiraea densiflora</i> var. <i>splendens</i>	SPDES	Subalpine Spiraea
<i>Thalictrum alpinum</i> var. <i>hebetum</i>	THALH	Dwarf or Alpine Meadowrue
<i>Thelypodium eucosmum</i>	THEU	Arrow-Leaved Thelypody
<i>Thelypodium howellii</i> ssp. <i>howellii</i>	THHOH	Howell's Thelypody
<i>Trollius laxus</i> var. <i>albiflorus</i>	TRLAA	Globeflower

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GLOSSARY



GLOSSARY OF TERMS

Acaulescent - Without an evident leafy stem.

Achene - Small, dry 1-seeded fruit covered by ovary wall and free from the seed (i.e., grass).

Acuminate - Tapering to a long point.

Acute - Pointed at less than a right angle.

Adnate - Grown together.

Alternate - Singly located at a node.

Annual - A plant which germinates, flowers, and sets seed in one growing season.

Anther - The pollen-containing part of a stamen.

Apetalous - Without petals.

Aril - Pulpy outer covering of a seed as found on yew shrubs.

Auricle - An ear-like lobe on grasses at the leaf-culm juncture.

Awn (awned) - Bristle-like appendage on the back or top of glumes and lemmas of some grass spikelets.

Axil (axillary) - The angle between leaf and stem; the location of inflorescences in some forbs and shrubs.

Banner - The upper petal of a leguminaceous (pea-like) flower.

Beak - A narrow projection on some fruits.

Berry - Fleshy fruit with several seeds (i.e., grapes).

Biennial - A plant that takes two years to complete its development and usually blooms the second year.

Bilabiate - Two-lipped.

Bipinnate - Twice pinnate.

Biseriate - In two whorls or cycles.

Biternate - Twice ternate.

Blade - The expanded part of a leaf.

Bract - Modified leaf subtending (below) a flower or cluster of flowers.

Bulbils - A small bulb or bulb-like body often produced above ground on stems or in inflorescences.

Bulblet - A small bulb.

Caespitose - Tufted, bunched.

Calcareous - Chalky: calcium carbonate derived.

Calyx - The sepals of a flower - collectively.

Campanulate - Bell-shaped.

Capitate - In a dense, head-like cluster.

Capsule - Dry, dehiscent fruit of two or more chambers (carpels) usually containing many seed (i.e., Iris)

Catkin - Elongate, deciduous cluster of flowers (i.e., willows).

Caudex - The thickened, often woody base above the roots.

Cauline - Pertaining to the stem.

Chartaceous - Papery.

Ciliate - Containing hairs or bristles on the leaf margin.

Collar - The outer side of the leaf where the blade and sheath come together in grasses.

Compound - Composed of two or more parts; leaves - two or more leaflets.

Cordate - Heart-shaped.

Corolla - The petals of a flower - collectively.

Corymb - Rounded or flat-topped inflorescence; pedicels or floral branches are attached at intervals with the outer longest and the inner progressively shorter.

Crenate - With rounded teeth.

Culm - The flowering stem of a grass or sedge.

Cuneate - Wedge-shaped; as a leaf shape.

Cyme - Rounded or flat-topped inflorescence; pedicels or floral branches are often attached at a single point and radiate outward; oldest flowers terminate main axis.

Cypsela - An achene bearing an adnate calyx.

Deciduous - Falling off at the end of a season of growth or life; non-evergreen.

Dehiscent - A fruit that splits open.

Dentate - Toothed; teeth acute and pointing outward on leaf margin.

Dioecious - Plants with unisexual flowers produced on separate plants (i.e., holly).

Diploid - A plant with two sets of chromosomes.

Disjunct - A species or population separated from its normal distribution or range.

Disk - A fleshy or elevated enlargement of the receptacle (i.e., disk flowers are tubular and produced in the head of composites).

Distal - Toward the tip or far end.

Drupe - Fleshy fruit with a single seed enclosed by a pit; a stone fruit (i.e., peach, cherry).

Endemic - With a very restricted range.

Entire - Leaf margin without teeth or indentations; continuously even.

Filament - The stalk of a stamen.

Florets - The small flowers of grasses (consisting of palea, lemma, and included sexual parts).

Follicle - Dry fruit of one chamber (carpel) that splits on one side (i.e., milkweed, larkspur).

Forb - Herbaceous (non-woody) plant with broad leaves that die back at the end of the growing season (excludes grasses and sedges).

Frond - The leaf of a fern.

Galea - The upper concave lip of a 2-lipped calyx or corolla (i.e., *Pedicularis spp.*)

Glabrous - Smooth, without hairs or glands.

Gland (glandular) - A hair that secretes nectar; having glands and stickiness.

Glaucous - Bluish, whitish, or grayish in color due to a coating of powdery or waxy particles.

Glumes - A pair of scale-like bracts enclosing the grass spikelet.

Head - Inflorescence of dense sessile flowers (i.e., composite).

Helicoid - Spiral-like (as in a snail shell).

Herbaceous - Non-woody plant with stems dying back at the end of the growing season (includes sedges and grasses).

Hip - The fruit of a rose; fleshy portion composed of receptacle, hypanthium, and the included achenes.

Hypanthium - A saucer-shaped or cup-shaped expansion of the floral axis producing sepals, petals, and stamens from its upper margin.

Imbricate - Overlapping like shingles on a roof.

Incised - Leaf margin; cut sharply, irregularly, and deeply.

Indehiscent - A fruit that does not split open.

Indusium - The structure that covers the sori of many ferns.

Inflorescence - The floral cluster of a plant; the arrangement of the flowers.

Involucel - A secondary involucre.

Involucre - A whorl of bracts below an inflorescence.

Keel (keeled) - A sharp crease or ridge (as on a boat); the lower petals of a leguminaceous (pea-like) flower.

Lanceolate - Elongate with curved sides and pointed end; widest part in middle.

Leaflet - One of the divisions of a compound leaf.

Legume - Dry, dehiscent fruit of one carpel (chamber) splitting at maturity along two sutures (i.e., pea).

Lemma - A bract enclosing the flower in the spikelet of a grass; sometimes awned.

Lenticels - Lens-shaped corky lines on the bark of some woody plants (i.e., cherry).

Ligule - A small, tongue-shaped appendage at the junction of blade and sheath of the grasses.

Lip - The principal lobes of a bilabiate corolla or calyx.

Lithosolic - Containing a thin soil over an impervious bedrock.

-Merous - A suffix indicating the number of parts or floral organs.

Mesic - Moist (neither very wet nor very dry).

Monoecious - Having separate male and female flowers on the same plant (i.e., corn).

Mucronate - Apex of leaf with a short, sharp point.

Nerve - One of the principal veins of a parallel-veined leaf.

Node - Point on a stem where leaves or branches are attached.

Nut - Dry, indehiscent fruit with a hard, bony shell and one-seed (i.e., walnut).

Oblanceolate - "Upside down" or inverted lanceolate; broadest above the middle.

Oblong - Elongate with parallel sides; length usually less than ten times the width.

Obovate - Broadest above the middle (the reverse of ovate).

Opposite - In pairs on either side of the node (leaves); inserted in front of the petals and opposite (stamens).

Orbicular - Circular in outline.

Ovary - The enlarged, basal portion of the pistil which develops into a fruit after fertilization.

Ovate - Egg-shaped; broadest part below the middle.

Palatability - Relative use made by grazing or browsing animals (deer, elk, cattle, sheep, horses) usually related to degree of preferability and need. Unpalatable may reflect slight use rather than the plant being inedible. Varies by season, total plant composition available, and the local area.

Palea - The inner, smaller scaly bracts enclosing the flower of the spikelet of grasses.

Palmette - Three or more lobes or parts arising from a common point (as fingers on a hand).

Panicle - An elongate inflorescence with compound branching pattern.

Pappus - Hairs, bristles, scales, or awns arising from the achene of a composite flower.

Pedicel (Pedicellate) - The stalk of a single flower in an inflorescence.

Peduncle - The stalk of an inflorescence.

Peltate - With the petiole attached at or near the center of the lower surface of an orbicular leaf blade.

Pendulous - Drooping; hanging freely.

Perennial - A plant that lives for more than two years.

Perfect - A flower containing both stamens and pistils.

Perianth - A collective term for the calyx and corolla.

Perigynia - A bract enclosing the achene of a sedge.

Petal - The white or colored part of the corolla that serves to attract pollinating insects.

Petiole (petiolate) - The stalk of a leaf.

Pinnae - The primary divisions of a pinnately compound leaf (i.e., fern).

Pinnate - Having parts arranged in two rows along a common axis (like a feather).

Pinnatisect - Cut down to the midrib in a pinnate fashion.

Pinnule - The leaflet on a pinna (ultimate leaf segment of a fern frond).

Pistil - The female reproductive part of the flower.

Pistillate - The female flower.

Pith - The soft spongy central cylinder in woody stems.

Pod - A dry, dehiscent fruit (not precise).

Pome - Fleshy fruit with a core (i.e., apple).

Prickles - Small, weak spines on the bark (i.e., raspberry).

Processes - The appendages surmounting the ovarian crests on the onions.

Prostrate - Lying flat on the ground.

Prow - The forward part of a ship (describes *Poa spp.* leaf tips).

Pubescent - Covered with hairs.

Raceme - An elongate inflorescence with single pedicels along the axis; usually blooming from base to apex.

Rachis - The axis of a spike or a pinnately compound leaf.

Ramentum - The chaffy scales covering the fronds of ferns.

Ray - The marginal flower in a head of a composite; often strap-like and colored or white.

Receptacle - The enlarged top of the peduncle to which the flowers are attached.

Reniform - Kidney-shaped; broader than long, with rounded ends and a wide basal sinus.

Reticulate - Like a network.

Retorse - Directed downward; bent backward.

Rhizome (rhizomatous) - A modified underground stem growing horizontally and developing new plants (i.e., Kentucky bluegrass).

Saccate - Shaped like a bag.

Samara - Dry indehiscent fruit with one or more wings (i.e., maple).

Scale - A small, thin or flat structure.

Scape - A leafless flowering stalk above basal leaves.

Schizocarp - A fruit that splits into 1-seeded parts or chambers (i.e., carrot).

Sepal - The part of the calyx which is usually green and often leafy in texture.

Serrate - Leaf margin with fine, sharp teeth that are inclined upward.

Serrulate - Finely serrate.

Sessile - Flowers or leaves that lack a stalk.

Sheath - The portion of the leaf surrounding the culm.

Shrubs - A woody plant having several stems and lower in stature than a tree.

Silicle - A fruit like a silique but usually not much longer than wide.

Silique - An elongated two-valved capsule (more than twice as long as wide).

Sori - Clusters of sporangia on fern pinnae and fronds.

Spatulate - Oblong, broader at the upper end and with a rounded apex (like a spatula).

Spike - Elongated inflorescence of sessile flowers.

Spikelets - The florets and glumes of a grass.

Spine - A strong, sharp-pointed woody protrusion from the stem (i.e, rose).

Sporangia - The container of the spores.

Stamen - The pollen-producing part of the flower.

Staminate - The male flower.

Staminodia - Sterile stamens.

Stellate - Star-shaped hairs on stems or leaves.

Stigma - The part of the pistil in a flower where pollen adheres and germinates.

Stipe - A stalk supporting an ovary; the petiole of the fern leaf.

Stipule - Leafy appendages that appear at the point of attachment of leaf and stem.

Stolon (stoloniferous) - A modified horizontal stem, above ground, that roots at the nodes developing new plants (i.e., strawberry).

Style - The stalk-like part of the pistil connecting the stigma to the ovary in a flower.

Sub-shrub - Somewhat shrubby though appearing herbaceous.

Tendril - A part of a stem modified into a slender, twining, holdfast structure (i.e., peavines, vetches).

Tepal - A sepal or petal of the perianth of the onion.

Ternate - Arranged in three's.

Translucent - A fruit that is partially transparent.

Triploid - A plant with three sets of chromosomes.

Truncate - Base or apex of a leaf that is flattened as though cut-off.

Tubular - Shaped like a tube; corollas with an elongated "tube" but little or no limb.

Umbel - A flat-topped or rounded inflorescence having flowers on pedicels of equal length and attached to the summit of the peduncle (blooms outside inward).

Veins - Externally visible transporting tissue in a leaf.

Venation - The system or pattern of veins.

Whorl - A group of three or more parts at a node.

Wing - The lateral petals of a leguminaceous (pea-like) flower; a flat, thin appendage on a seed or fruit.

Xeric - Dry.

SENSITIVE PLANTS



BRANDEGEE'S ONION

Allium brandegeei

ALBR

Liliaceae

lily family

Range: Eastern Oregon; east to southwestern Montana, western Wyoming, Utah and western Colorado. In Oregon, known from Baker, Union, Harney, Wallowa, and Malheur Counties.

Habitat: Shallow, rocky soils in sagebrush/bunchgrass communities. Open, exposed areas with heavy cobble and moderate spring run-off. Areas moist in spring. Associated species include sage, juniper, and aspen. Known sites are low to moderate elevations (3,000 to 6,500 feet).

Look-alikes: *Allium madidum*, *Allium macrum*, *Allium fibrillum*.

Notes: Blooms April to June. Collection of specimens with intact bulbs is encouraged to aid later verification.



Cal Bur

BRANDEGEE'S ONION

ALBR

Allium brandegei



Inflorescence umbellate, flowers white to pinkish.

Tepals exceeding the stamens (5 to 8 mm. long).

Look-alike *Allium macrum* has tepals that are equal to the stamens in length.

Scape ovate in cross-section, 3 to 10 cm. tall.

Two leaves per flowering stem, concave-convex, **longer than the scape**, 1 to 3 mm. wide.

Look-alike *Allium madidum* has leaves shorter than the scape.

Bulbs ovoid, odorous; inner coat white to reddish, outer coat gray or brownish.

Inner bulb coat cellular reticulations transversely elongate, to equal-sided polygons.

Look-alike *Allium fibrillum* has contorted bulb coat reticulations.

SIERRA ONION

Allium campanulatum

ALCA

Liliaceae

lily family

Range: Eastern Oregon south to northern California east of the Sierra divide, east through Nevada to Utah. Known and suspected sites are scattered throughout eastern Oregon.

Habitat: Dry, open areas surrounded by ponderosa pine and juniper woodlands. Usually found growing in clay soils with considerable gravel. Known sites are low to high elevations (3,000 to 7,400 feet).

Look-alikes: *Allium bisceptrum*, *Allium acuminatum*.

Notes: Blooms June to July. Onions are generally difficult to identify. Collection of specimens with intact bulbs is encouraged to aid later verification. This species is very difficult to distinguish from *Allium bisceptrum*.



Karl Urban

SIERRA ONION

ALCA

Allium campanulatum

Umbel few to many flowered. Pedicels up to 4 times as long as tepals, deflexed in fruit.



Tepals acuminate (4-10 mm. long), purplish with a purple crescent at base. **Rigid in fruit.** Midrib keeled.



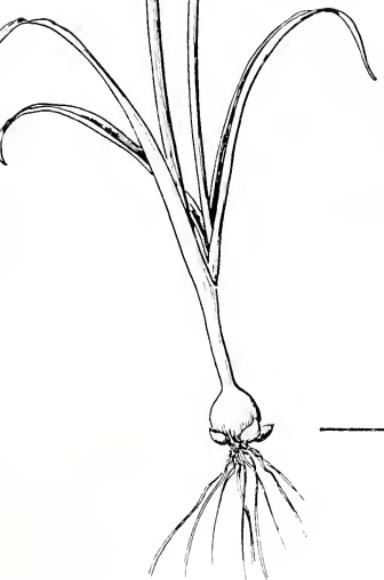
Look-alike *Allium bisceptrum* has tepals that are usually papery in fruit.



Ovary with a prominent crest of 6 processes.

Look-alike *Allium acuminatum* lacks a crested ovary.

Scape round, occasionally 2 or more per plant; 5 to 30 cm. tall.



Leaves 2 or sometimes 3, concave-convex, 1 to 10 mm. wide and about as long as the scape. **Leaves usually withered by flowering time.**

Look-alike *Allium bisceptrum* has leaves that are still green at flowering time.

Bulb ovoid, odorous, often with bulblets.

BLUE MOUNTAIN ONION

Allium dictuon

ALDI

Liliaceae

lily family

Range: Known only from Weller Butte, Columbia County, Washington.

Habitat: Openings in subalpine fir stands. Southeast aspects; cobbly, shallow soils. Known sites are moderate elevations (5,200 to 5,500 feet).

Look-alikes: *Allium acuminatum*.

Notes: Blooms in late June or early July as the grasslands are beginning to dry. Check oblique bulb base for positive identification.

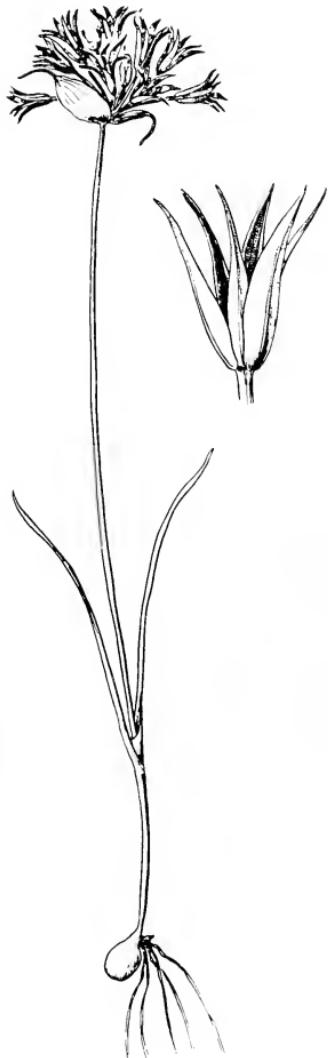


Karl Urban

BLUE MOUNTAIN ONION

ALDI

Allium dictuon



Flowers deep pinkish-red and resemble *Allium acuminatum*, except that the flowers are more tubular and taper gradually to the receptacle. The petals have finely serrulated edges.

Scape is circular and tall (about 20 cm. long); greatly exceeds the leaves.

Leaves are green when the plant is in flower. Two leaves per plant.

Look-alike *Allium acuminatum* has leaves that are brown and dry by the time it blooms.

The bulbs are obliquely ovoid. The roots appear to protrude from the upper portion of the bulb near the insertion of the scape.

The roots of look-alike *Allium acuminatum* are attached to the bottom of the bulb.

GEYER'S ONION

Allium geyeri var. *geyeri*

ALGEG

Liliaceae

lily family

Range: Imnaha River area in Hell's Canyon NRA, Oregon; east base of Cascades throughout several western states. Possibly occurs throughout the Blue and Wallowa Mountains.

Habitat: Along streams and in low, wet meadows. Basaltic shelves and vernally wet scabs. Only known site in Oregon is low elevation (1,500 feet).

Look-alikes: *Allium geyeri* var. *tenerum*, *Allium textile*; all other onions have non-fibrous bulb coats.

Notes: Blooms April to June. Onions are generally difficult to identify. Collection of specimens with intact bulbs is encouraged to aid later verification.

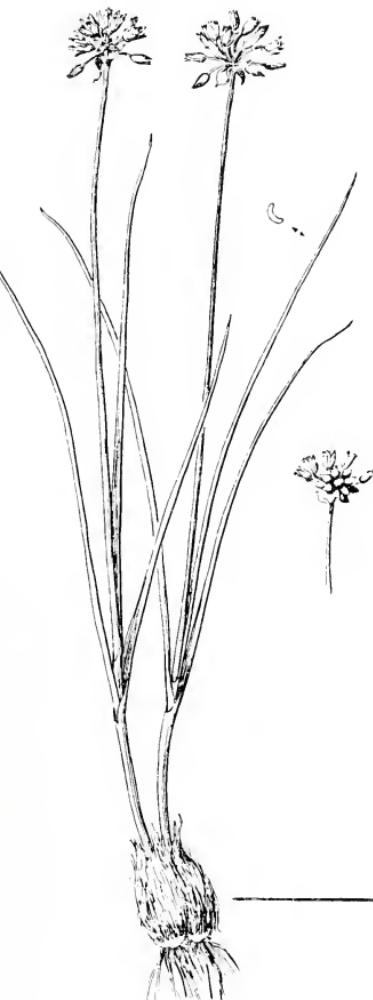


Charlie Johnson

GEYER'S ONION

ALLEG

Allium geyeri var. *geyeri*



Relatively large (15 to 50 cm. tall), pink-flowered onion.

Flower tepals pink or sometimes white (6 to 8 mm. long), tips pointing upright.

Flowering stalk round in cross-section; 10 to 25 flowers per umbel. Bract of flower involucre with only one nerve.

Look-alike *Allium geyeri* var. *tenerum* has bulbils in place of functional flowers in most of the flower heads.

Ovary with six low, rounded knobs on the top.

Leaves three or more per plant; narrow (1 to 3 mm. wide) and channeled; shorter than the flowering stalks.

Look-alike *Allium textile* has only two leaves, the tepals tend to be lighter (white to light pink), and the inner tepals spread outward.

Old bulb coats fibrous, persistent on the bulb.

ESTES' WORMWOOD

Artemisia ludoviciana ssp. "estesii"
Asteraceae (Compositae)
sunflower family

ARLUE

Range: Central Oregon. Currently known only from along the Deschutes River just west of Redmond.

Habitat: Gravelly areas adjacent to streams above high water.

Look-alikes: *Artemisia ludoviciana* varieties, *Artemisia douglasiana*.

Notes: Blooms June to October. This plant is a very large version of the species most resembling the variety *imcompta* in our range.



Stu Garrett

ESTES' WORMWOOD

ARLUE

Artemisia ludoviciana ssp. "estesii"

Herbaceous, robust perennial forb
(0.5 to 4 m. tall).

Inflorescence a panicle of heads.



Leaves aromatic, coarsely toothed to lobed; green above, white-tomentose underneath.

Leaves of mid-plant up to 7 cm. long by 10 to 13 mm. wide, not including the lobes.

Other varieties of this species have smaller leaves. Look-alike *Artemisia douglasiana* has wider and longer leaves (7 to 15 cm. long, by 1 to 5 cm. wide).

GREEN SPLEENWORT

Asplenium trichomanes-ramosum
(*Asplenium viride*)
Polypodiaceae
fern family

ASVI

Range: Wallowa Mountains, Oregon; central Washington, Canada, Alaska, Colorado, Nevada, Great Lakes states, Vermont, New York.

Habitat: Shady, north-facing limestone cliffs; basic rocks or talus slopes. Known sites in our area are at high elevations (7,000 to 9,000 feet).

Look-alikes: *Pellaea bridgesii*, *Pellaea breweri*.

Notes: This species is always associated with limestone substrate.



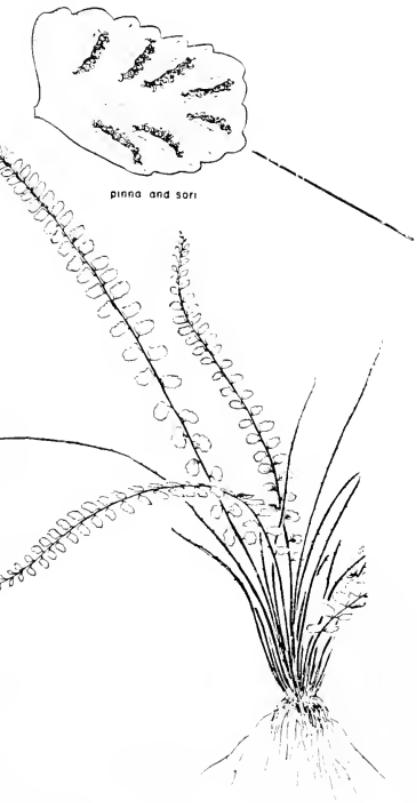
Bob Moseley

GREEN SPLEENWORT

ASVI

Asplenium trichomanes-ramosum
(*Asplenium viride*)

Small, tufted, rock fern (up to 1.5 dm. tall).



Leaves once pinnate; segments ovate, crenate, evergreen; the edges toothed.

Indusium elongate, flaplike, opening towards the midvein of the leaf; often deciduous.

Stems greenish to straw colored at the tips, brown towards the base; with two vascular bundles per stem. Old stems persistent at the base of the plant.

Stems sometimes have a few glandular hairs.

Rhizomes creeping, blackish, scaly.



Look-alikes *Pellaea bridgesii* and *Pellaea breweri* have only one petiole bundle, and no indusium.

ARCTIC ASTER

Aster sibiricus var. *meritus*

ASSI2

Asteraceae (Compositae)

sunflower family

Range: Northeastern Oregon; north-central to eastern Washington, across Idaho, into Montana and Wyoming.

Habitat: Rocky crevices, southerly aspects, lithosolic soils. Known sites are at moderate to high elevations (6,000 feet to 8,000 feet).

Look-alikes: Several varieties of *Aster foliaceus*.

Notes: Blooms begining in late July and continues until September. Washington sensitive only. Reported from near Godman Spring Camp-ground, Pomeroy Ranger District, Umatilla National Forest.



Bob Moseley

ARCTIC ASTER

ASSI2

Aster sibiricus var. *meritus*

Small (up to 1 dm. tall), rhizomatous perennial aster with purple flowers.



Involucral bracts have a chartaceous base. This differentiates Aster from Erigeron. Each involucral bract is purple-tipped, and is not glandular.



Corolla limb and corolla tube of the disk flowers are approximately equal lengths. In other species the corolla limb is much longer than the short tube.

Leaves are elliptical (2.5 to 8 cm. long by 4 to 25 mm. wide), with entire to slightly toothed margins. They are sessile to subpetiolate and hairy.

ARTHUR'S MILKVETCH

Astragalus arthuri

Fabaceae (Leguminosae)
pea family

ASAR3

Range: Known from extreme southeastern Washington, northeastern Oregon, and adjacent Idaho. Known to occur on the Umatilla National Forest in Asotin County, Washington.

Habitat: Relatively moist grasslands. Northerly aspects; shallow, stony soils. Moderate elevations (4000 feet).

Look-alikes: *Astragalus reventus*.

Notes: Blooms in late May and early June. It is most accurately identified when in fruit. Washington sensitive only.



Charlie Johnson

ARTHUR'S MILKVETCH

ASAR3

Astragalus arthuri



Erect, perennial milkvetch from a stout taproot and branched crown (2 to 4 dm. tall).

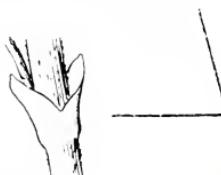
Flowers white; 5 to 20 flowers per raceme.

Fruits drooping or pendant; hairy and compressed (3.5 to 5 cm. long by 3 to 4 mm. wide).

Look-alike *Astragalus reventus* has smaller (1.5 to 3 cm. long), more erect fruits.

Leaves are pinnately compound and hairy. **The lower stipules are not united around the base of the stem.**

Look-alike *Astragalus reventus* has lower stipules that are united.



OWYHEE MILK VETCH

Astragalus atratus var. *owyheensis*

ASATO

Fabaceae (Leguminosae)

pea family

Range: Northeastern Oregon; south to northeastern Nevada, east to central Idaho. Known sites in our area are in Baker and northern Malheur counties.

Habitat: In big sagebrush/bunchgrass communities on rolling hills, or flats of rocky to clayey soils. Has also been found in grassy meadows where individuals are more robust. Known sites are low to moderate elevations (2,700 to 4,100 feet).

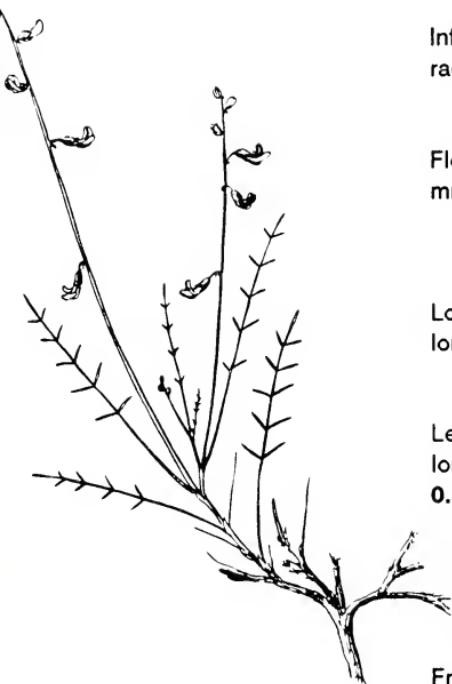
Look-alikes: *Astragalus cusickii*.

Notes: Blooms May to July. Fruiting pods are necessary for positive identification of this species.

OWYHEE MILK VETCH

ASATO

Astragalus atratus var. *owyheensis*



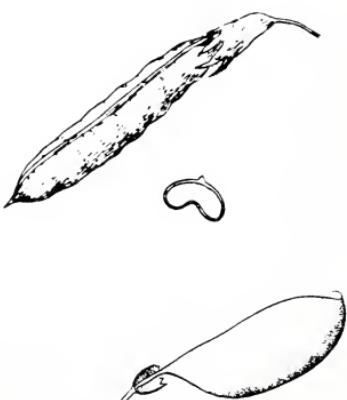
Caespitose perennial forb from a branched caudex (1 to 3 dm. tall).

Inflorescence with 6 to 15 flowers per raceme, quite lax.

Flowers white, purple-lined, 8 to 9 mm. long.

Look-alike *Astragalus cusickii* has longer flowers (11 to 16 mm. long).

Leaves odd-pinnate (4 to 15 cm. long); **leaflets very narrow** (less than 0.5 mm. wide, 3 to 10 mm. long).



Fruit a purplish-mottled pod, **pendulous**, on a short stipe (1 to 2 mm.) which is obscured by the calyx (15 to 22 mm. long, 3 to 4 mm. wide).

Pod of look-alike *Astragalus cusickii* is obovoid, on a longer stipe (4 to 6 mm.); and is much broader (10 to 20 mm.).

SOUTH FORK JOHN DAY MILK VETCH

Astragalus diaphanus* var. *diurnus

ASDI2

Fabaceae (Leguminosae)
pea family

Range: South Fork John Day River; western Blue Mountains, Oregon.
Currently known only from Grant County, Oregon.

Habitat: Barren hillsides, dry washes, and openings in juniper-ponderosa pine forests. In gravelly, sandy soil; usually on basalt substrate. Lower elevation sites (below 3,500 feet).

Look-alikes: *Astragalus diaphanus* var. *diaphanus*.

Notes: Blooms in May. Fruiting pods are necessary for positive identification of this species. In Hitchcock and Cronquist's *Flora of the Pacific Northwest* this variety is not distinguished from the species *Astragalus diaphanus*.



Ron Halvorson

SOUTH FORK JOHN DAY MILK VETCH

ASDI2

Astragalus diaphanus var. *diurnus*



Taprooted biennial or short-lived perennial forb (1 to 2 dm. tall).

Leaves odd-pinnate; 3 to 5 cm. long, with 9 to 15 oval to obovate leaflets.

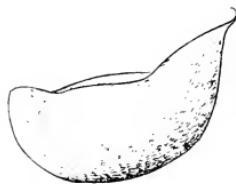
Inflorescence a 3 to 7 flowered raceme.

Stems pubescent distally; the hairs pointing more or less in one direction.



Flowers cream colored (5 to 8 mm. long).

Banner reflexed from wing petals, purple lined.



Fruit an inflated, bright red, translucent pod (1.5 to 2 cm. long); not strongly incurved.

Look-alike *Astragalus diaphanus* var. *diaphanus* has a strongly curved pod that is not bright red.



Incomplete intrusion of lower suture in pod.

Look-alike *Astragalus diaphanus* var. *diaphanus* has nearly complete intrusion of the lower suture.

Pod cross section

HOWELL'S MILKVETCH

Astragalus howellii var. *howellii*

ASHO2

Fabaceae (Leguminosae)
pea family

Range: Central and north-central Oregon. Currently known only from Wasco County, Oregon.

Habitat: Sagebrush plains and foothills near ponderosa pine forests. Associated with abundant cheatgrass.

Look-alikes: *Astragalus howellii* var. *aberrans*.

Notes: Blooms April through June. Fruiting pods are necessary for positive identification of this species.



Carolyn Wright

HOWELL'S MILKVETCH

ASHO2

Astragalus howellii var. *howellii*



Upright perennial forb (up to 20 cm. tall).

10 to 25 whitish-yellow flowers per raceme (each flower 10 to 15 mm. long).

Leaves odd-pinnate (5.5 to 14 cm. long), with **21 to 27 leaflets**.

Look-alike *Astragalus howellii* var. *aberrans* has shorter leaves (3 to 7 cm. long); and only 11 to 21 leaflets.

Leaflets **softly hairy on both surfaces**.

Look-alike *Astragalus howellii* var. *aberrans* has smooth upper surfaces.

Pod large, pendulous, (15 to 30 mm. long); borne on a stipe 1 to 2 times longer than the calyx.

DESCHUTES MILKVETCH

Astragalus tegetarioides

ASTE

Fabaceae (Leguminosae)

pea family

Range: Southern Blue Mountains, Oregon; northern California. Currently known from Grant and Harney Counties, Oregon.

Habitat: Big sagebrush openings and forested fringes in ponderosa pine associations. Known sites are at moderate elevations (4,800 to 5,300 feet).

Look-alikes: *Astragalus lentiginosus*, *Astragalus purshii*.

Notes: Blooms late June to August. Fruiting pods are necessary for positive identification of this species.



Greg Lind

DESCHUTES MILKVETCH

ASTE

Astragalus tegetarioides

Small, caespitose, perennial forb;
forms nearly flat mats (10 to 40 cm.
in diameter).



Leaves odd-pinnate (2 to 4 cm. long);
7 to 11 leaflets (each one 3 to 6 mm.
long).

Stipules (at base of leaf petiole) mem-
branous.



Flowers small (4 to 6 mm. long);
petals white.



Look-alikes have larger flowers; *Astragalus lentiginosus* (8 to 18 mm.), *Astragalus purshii*, (10 to 30 mm.).



Fruit a small pod, (4 to 5 mm. long),
pubescent; rupturing the calyx at ma-
turity. Pods larger on the look-alikes
(exceeding 10 mm.).

WESTERN PAPER BIRCH

Betula papyrifera var. *commutata*

BEPAC

Betulaceae

birch family

Range: Wallowa and Blue Mountains, Oregon; Alaska, northern Idaho, Montana, Colorado, across Canada, and into Massachusetts.

Habitat: Riparian zones along rivers and perennial streams. Wet rocky areas or at the base of wet cliff faces. Known sites in our area are at lower elevations (2,500 to 4,000 feet).

Look-alikes: *Alnus* spp., *Betula occidentalis*, *Betula papyrifera* var. *subcordata*.

Notes: Birch species are not well defined; collection of vouchers is important for all birches in our area. When collecting specimens for verification be sure to get a bark sample; the presence or absence of crystalline glands in the bark is a key characteristic.



Karl Urban

WESTERN PAPER BIRCH

BEPAC

Betula papyrifera var. *commutata*



Small tree (up to 20 m. tall), with reddish-white bark that peels readily with age.

Look-alike *Betula occidentalis* has shiny, non-peeling, bronze bark, with warty-crystalline glands on the small stems.

Female catkins borne singly on the branches; erect, papery and deciduous. Wings of the nut as broad as the nutlet.

Look-alikes *Alnus spp.* bear three to six female catkins per branch that mature into woody cones.

Leaves ovate to cordate (4 to 8 cm. long), with serrated edges and sharply pointed tips. Tufted hairs present in the axils of the larger leaf veins.



Look-alike *Betula occidentalis* has smaller leaves that lack hairs in the axils of the larger veins, and that are not sharply pointed at the tip.



Look-alike *Betula papyrifera* var. *subcordata* has smaller leaves (3.5 to 5 cm. long), with only slightly pointy leaf tips; and stems with crystalline glands.

Twigs with small, flattened, non-crystalline glands.

OREGON BOLANDRA

Bolandra oregana

BOOR

Saxifragaceae

saxifrage family

Range: Imnaha-Snake divide, North Pine Creek, Oregon; Snake River Canyon, Oregon and Idaho; Columbia River Gorge, Oregon and Washington; lower Willamette River, Oregon.

Habitat: Moist rocky seeps, springs, waterfalls, wet road banks. Must have flowing or dripping water throughout the spring. Low to moderate elevations (2,000 to 5,000 feet).

Look-alikes: *Boykinia major*, *Saxifraga* spp.

Notes: Blooms May to June.

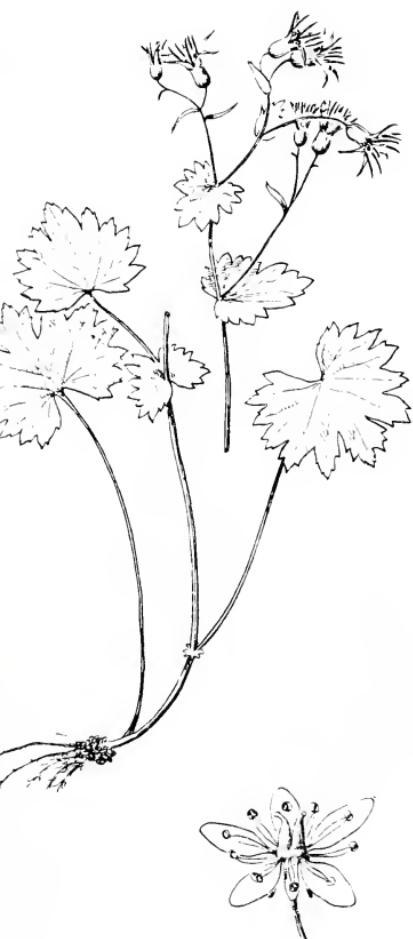


Paula Brooks

OREGON BOLANDRA

BOOR

Bolandra oregana



Branching, perennial forb (2 to 6 dm. tall).

Flowers several per stem, petals purplish-brown, lanceolate.

Calyx linear (14 to 18 mm. long), purplish; not attached to the pistil.

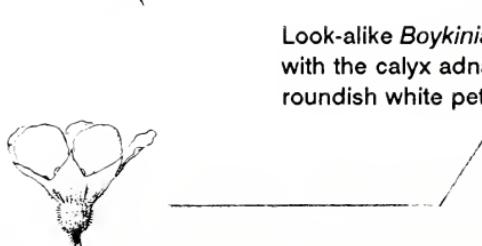
Stamens five per flower.

Fruit a capsule, with the two segments fused only on the lower 1/4.

Leaves roundish, with deeply incised teeth. **Upper stem has large leafy stipules.**

Roots with bulbils along the short horizontal rootstocks.

Look-alikes *Saxifraga* spp. have ten stamens per flower, and white petals.



Look-alike *Boykinia major* has flowers with the calyx adnate to the pistil and roundish white petals.

MOONWORTS

Botrychium spp.

Ophioglossaceae

grape fern family

BOTRY

Range: Various species found throughout North America.

Habitat: Moist meadows, edges of ponds and lakes, grassy forests. Some species have been found under various species of conifer trees. Sandy soils, or areas moist in spring. In forested areas, often associated with queen's-cup bead lily or strawberries.

Look-alikes: Two species of grape ferns are not sensitive; *Botrychium multifidum*, and *Botrychium virginianum*. Any other species should be treated as sensitive until properly identified.

Notes: The Region Six sensitive species list includes seven moonwort species for Oregon, and one more for Washington. For Oregon only, they are *Botrychium ascendens*, *B. crenulatum*, and *B. pedunculosum*; for Oregon and Washington they are *B. lanceolatum*, *B. lunaria*, *B. minganense*, and *B. pinnatum*; for Washington only, *B. simplex*. These plants are notoriously difficult to find and identify. When collecting voucher specimens; simply pinch them off at the base, and press immediately. All specimens need to be confirmed by an expert.



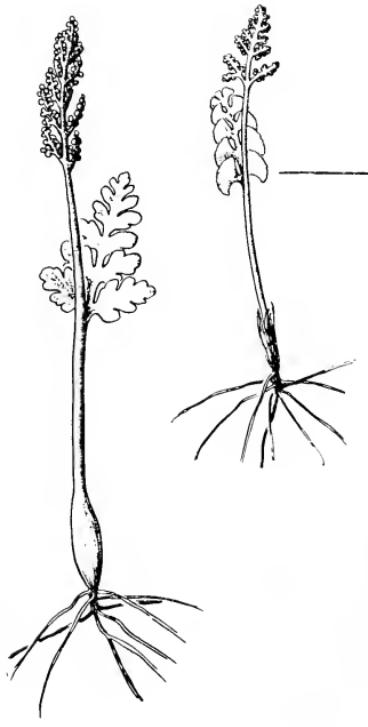
Paula Brooks

MOONWORTS

BOTRY

Botrychium spp.

Very small, non-flowering forbs (up to 1 dm. tall; usually smaller).



Each plant has one fertile and one sterile frond arising from a short stalk.

Sterile leaflet is pinnately to bi-pinnately divided and sometimes has a short stalk. The shape of the sterile leaf is the main characteristic used to distinguish the various species.

The fertile leaflet has small ball-shaped spore cases borne pinnately on an extension of the basal stalk.

Look-alike *Botrychium multifidum* is larger overall (1 to 5 dm. tall); and has leathery, evergreen, sterile leaves that are wider than they are long; and that grow parallel with the ground.



Look-alike *Botrychium virginianum* has highly dissected leaves and can be much larger overall (generally 1.5 to 5 dm. tall). The sterile leaf is larger (7 to 20 cm. wide by 10 to 30 cm. long).

AMERICAN THOROUGH-WAX

Bupleurum americanum

BUAM

Apiaceae (Umbelliferae)

parsley family

Range: Elkhorn and Wallowa Mountains, Oregon; Alaska, northern Canada, to Rocky Mountains in Montana, Idaho, and Wyoming.

Habitat: Talus slopes and rocky soil; open, dry meadows and ridgetops. Can be in mosaic of open areas and scrubby coniferous trees. Associated trees include whitebark pine, Douglas fir, Engelmann's spruce, and sub-alpine fir. Generally north to northwest aspect. Coarse gravel substrates; granodiorite and basaltic lithosolic soils. High elevation sites (7,000 to 9,000 feet).

Look-alikes: Other umbelliferous plants, but the combination of linear, entire leaves and yellow globular heads on compound umbels is very distinctive.

Notes: Blooms June to August. This is a Rocky Mountain species disjunct in northeastern Oregon.



Charlie Johnson

AMERICAN THOROUGH-WAX

BUAM

Bupleurum americanum



Small (5 to 50 cm. tall), non-hairy plant with **yellow to purplish flowers in compact umbels**. Many branched perennial from a stout taproot.

Flowers yellow, borne in tight balls on stalks in a compound umbel, subtended by ovate, leafy bracts (involucre).

Fruits smooth, beakless, ribbed, oblong (3 to 4 mm. long); round in cross-section.

Leaves entire, lanceolate, (up to 16 cm. long by 1 cm. wide); parallel veined. Leaves on flowering stems alternate, linear, clasping; smaller than basal leaves.

LONG-BEARDED MARIPOSA

Calochortus longebarbatus var. *longebarbatus*
Liliaceae
lily family

CALOL

Range: East base of Cascade range; scattered from south-central Washington, through Oregon, to northern California.

Habitat: Seasonally moist to dry meadows and swales. Lower elevation sites.

Look-alikes: *Calochortus longebarbatus* var. *peckii*, *Calochortus macrocarpus*.

Notes: Blooms June through July. *Calochortus longebarbatus* var. *longebarbatus* is diploid and fertile, whereas *Calochortus longebarbatus* var. *peckii* is a sterile triploid.

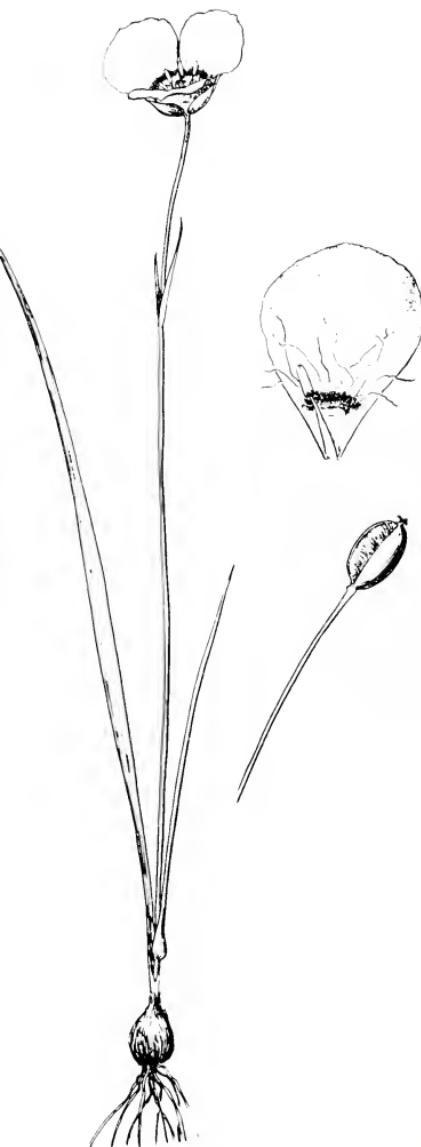


Bill Hopkins

LONG-BEARDED MARIPOSA

CALOL

Calochortus longebarbatus var. *longebarbatus*



Perennial forb from a bulb (10 to 30 cm. tall).

Flowers 1 to 3 per stem, **narrowing at the base**.

Look-alike *Calochortus longebarbatus* var. *peckii* has a broad, cup-shaped flower base.

Petals lavender-pink with long wavy hairs arising from above the gland.

Look-alike *Calochortus macrocarpus* lacks the long hairs.

Deep red-purple band located just above the gland.

Fruit a 3-winged, erect capsule; containing straw colored seeds.

Look-alike *Calochortus longebarbatus* var. *peckii* lacks seeds.

Bulblet usually found in the axil of the nearly basal cauline leaf.

Basal leaf broad, flat to gently curled inward (20 to 30 cm. long by 5 to 10 mm. wide).

LONG-BEARDED SEGO LILY

Calochortus longebarbatus var. *peckii*

CALOP

Liliaceae

lily family

Range: Ochoco Mountains, Oregon.

Habitat: Seasonally moist meadows and intermittent stream margins partially shaded by ponderosa pine.

Look-alikes: *Calochortus macrocarpus*, *C. longebarbatus* var. *longebarbatus*.

Notes: Blooms June to July. *Calochortus longebarbatus* var. *peckii* is a sterile triploid whereas *Calochortus longebarbatus* var. *longebarbatus* is diploid and fertile.



Nancy Fredricks

LONG-BEARDED SEGO LILY

CALOP

Calochortus longebarbatus var. *peckii*

Perennial forb from a bulb (10 to 30 cm. tall).

Flowers 1 to 3 per stem; **broadly cupped at the base**.

Look-alike *Calochortus longebarbatus* var. *longebarbatus* has flowers that are distinctly narrowed at the base.

Petals lavender-pink, with **long wavy hairs** arising from above the gland.

Look-alike *Calochortus macrocarpus* lacks hairs.

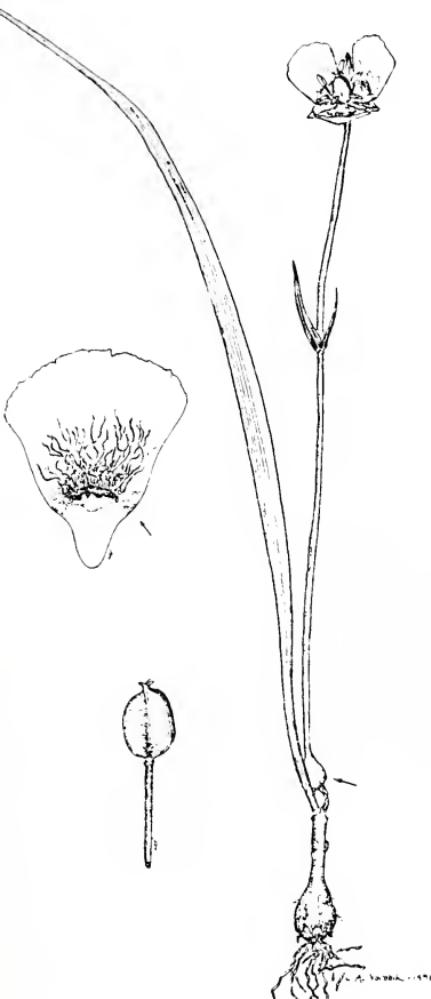
Deep red-purple band located just above the gland.

Fruit a 3-winged, erect capsule; lacking seeds.

Look-alike *Calochortus longebarbatus* var. *longebarbatus* has seeds.

Bulblet usually found in the axil of the nearly basal cauline leaf.

Basal leaf broad, flat to gently curled inward (20 to 30 cm. long by 5 to 10 mm. wide).



BROADFRUIT MARIPOSA

Calochortus nitidus

CANI

Liliaceae

lily family

Range: Hell's Canyon National Recreation Area, Idaho; northern and central Idaho.

Habitat: Palouse grasslands; deep soils.

Look-alikes: *Calochortus eurycarpus*.

Notes: Blooms in June and early July. Apparently no longer exists in the State of Washington. Has never been collected in Oregon.



Bob Moseley

BROADFRUIT MARIPOSA

CANI

Calochortus nitidus

Showy mariposa lily that grows from a perennial bulb (2 to 4 dm. tall).

Flowers 1 to 4 per stem, large and showy (petals 2 to 4 cm. long); petals lavender. A crescent-shaped blotch occurs above a crescent-shaped gland on each petal.

Look-alike *Calochortus eurycarpus* has smaller petals with a circular blotch above the crescent shaped gland.

Fruits elliptical to orbicular; three-winged and erect.

Basal leaves flat and wide (1 to 3 dm. long by 10 to 25 mm. wide).



ROUGH HAREBELL

Campanula scabrella

CASC

Campanulaceae

harebell family

Range: Seven Devils Mountains, Idaho; Cascade Mountains from Washington, through Oregon, and into northern California; Idaho and Montana. Possibly also in the Wallowa and Elkhorn Mountains.

Habitat: Talus slopes and rock crevices. Upper slopes and ridgetops. Substrate varies from basalt to granodiorite and serpentines. High elevations in our area (above 7,000 feet).

Look-alikes: *Campanula rotundifolia*.

Notes: Blooms June through August. The fruiting capsules are very helpful in identifying this species; be sure to get fruits when collecting voucher specimens.



Paula Brooks

ROUGH HAREBELL

CASC

Campanula scabrella

Low, sprawling, **sparsely hairy**, blue-flowered perennial with a taproot.



Several non-branched flowering stems on each plant (up to 10 cm. tall). Flowers usually single, light blue to purple, bell-shaped (6 to 12 mm. long), **free lobes same length as the joined tube**. **Hypanthium hairy**. Stamens alternate with corolla lobes, **anthers 3 to 5.5 mm. long**.

Fruiting capsule oblong, (5 to 7 mm. long); erect, opening by pores near the summit.

Basal leaves entire, oblong to linear (.5 to 4 cm. long). Leaves on stem alternate, smaller than basal leaves.

Look-alike *Campanula rotundifolia* has nodding capsules, cordate basal leaves, and is not hairy (especially notable on the hypanthium). The corolla lobes are also much shorter than the tube; and it tends to be larger overall.



LOW NORTHERN SEDGE

Carex concinna

CACO3

Cyperaceae
sedge family

Range: Wallowa and Blue Mountains, Oregon; scattered stations in Wyoming, Colorado, South Dakota, Michigan and parts of Canada.

Habitat: Moist coniferous forest. Moist, boggy woods and shady stream-banks. Often associated with Engelmann spruce (*Picea engelmannii*). Known sites in our area are at moderate elevations (5,000 to 6,000 feet).

Look-alikes: *Carex concinnooides*, *Carex rossii*.

Notes: Be sure to collect voucher specimens of any suspected rare sedge for verification by an expert.

LOW NORTHERN SEDGE

CAC03

Carex concinna

Small, tufted or creeping perennial sedge (up to 15 cm. tall).

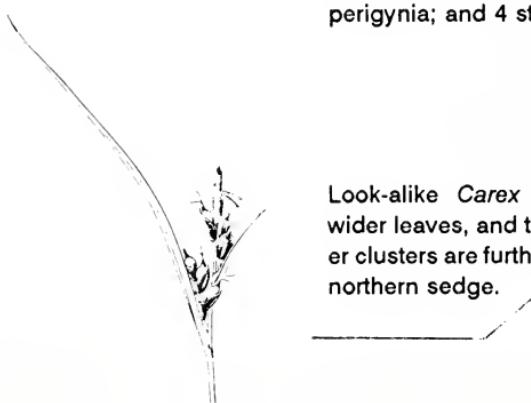
Flower spikes all clustered at the tips of the culms. One short male spikelet (3 to 7 mm. long) is located above the 2 to 3 female spikelets. Female flowers with three deciduous styles each.

Fruit (perigynia) short-beaked and finely hairy. Flower scales obviously shorter than the perigynia.

Leaves narrow (1 to 3 mm. wide) and shorter than the flowering stalk.

Look-alike *Carex concinnoides* is larger overall, has a larger male flowering spike (8 to 20 mm. long); female scales equal to or longer than the perigynia; and 4 stigmas.

Look-alike *Carex rossii* has much wider leaves, and the two lowest flower clusters are further apart than in low northern sedge.



NEW SEDGE

Carex nova

CANO

Cyperaceae

sedge family

Range: Wallowa Mountains, Oregon; Rocky Mountains of central Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

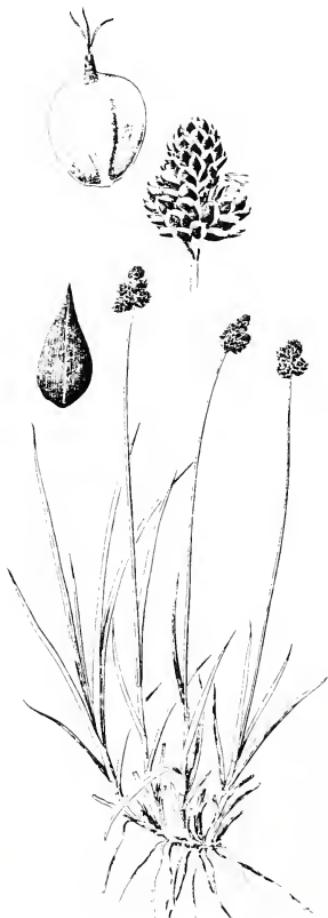
Habitat: Streambanks, meadows, and moist open slopes. Often above timberline. High elevation sites (7,000 to 9,000 feet).

Look-alikes: *Carex albonigra*, *Carex atrata*.

Notes: Be sure to collect voucher specimens of any suspected rare sedge for verification by an expert.

NEW SEDGE

CANO



Carex nova

Tufted to rhizomatous sedge (2 to 6 dm. tall).

Inflorescence densely capitate. Bract below spike without a sheath; short and inconspicuous. Terminal spike with female flowers above the male flowers.

Perigynia non-hairy, nearly beakless, elliptical to almost round, flattened (2.8 to 4.5 mm. long). Stigmas three, styles deciduous. Scales purplish-black to dark brown; equal to or shorter than the perigynia.

Leaves clustered at the base, shorter than the culms (2 to 5 mm. wide).

Roots non-hairy.

Look-alike *Carex albonigra* has less crowded, more ascending spikes with sessile achenes. It also occurs in drier habitats.



Look-alike *Carex atrata* has less crowded spikes and perigynia that are more elliptical.

FRATERNAL PAINTBRUSH

Castilleja fraterna

CAFR2

Scrophulariaceae

figwort family

Range: Eagle Cap Wilderness, Wallowa Mountains, Oregon.

Habitat: Open, exposed, bare rock and talus in sub-alpine tundra; to damp sub-alpine meadows and stream-banks. Restricted to calcareous substrates; both sedimentary soils and Martin-Bridge limestone outcrops. Grows on all aspects and slopes. Often grows with dwarf willow (*Salix arctica*), low grasses, sedges, and forbs. Moderate to high elevation sites (6,700 to 9,700 feet).

Look-alikes: *Castilleja ownbeyana*, *Castilleja chrysantha*.

Notes: Blooms late July through August. This species is relatively abundant in its narrowly defined range and habitat.



Charlie Johnson

FRATERNAL PAINTBRUSH

CAFR2

Castilleja fraterna



Perennial forb from a branching woody caudex (10 to 15 cm. tall).

Bracts of inflorescence inconspicuous, greenish (or upper ones red-tipped), not concealing the flowers; acute-tipped, sometimes with a pair of lateral lobes.

Leaves linear and entire below, 3-parted above; softly hairy.

Stems clustered on rootstock, weakly ascending.

Corolla 20 to 30 mm., with a bright red tip. Galea relatively long (8 to 12 mm.); the lower lip prominent (3 mm. long).



Look-alikes *Castilleja ownbeyana* and *Castilleja chrysantha* both have shorter corollas.



Calyx bright red (15 to 20 mm. long); cleft subequally.

PURPLE ALPINE PAINTBRUSH

Castilleja rubida

Scrophulariaceae

figwort family

CARU3

Range: Wallowa Mountains, Oregon.

Habitat: Open, exposed, bare rock on calcareous substrates. Found on Hurwal sedimentary soils and Martin-Bridge limestone outcrops. Occasionally found in alpine tundra habitat dominated by low grasses, sedges, and forbs. All aspects and slopes, from vertical cliffs to ridgetops and plateaus. High elevation sites (7,500 to 10,000 feet).

Look-alikes: *Castilleja chrysantha*. All other alpine paintbrushes have calyx clefts deeper medially than laterally.

Notes: This species is relatively common in its very limited range.



Charlie Johnson

PURPLE ALPINE PAINTBRUSH

CARU3

Castilleja rubida



Very small, low-growing, perennial paintbrush (up to 12 cm. tall). **Hairy throughout**. Stems clustered on a woody base.

Calyx equally cleft into four segments (10 mm. long overall). Corollas deep rose-purple (12 to 14 mm. long). Lower lip of corolla prominent, with a very small galea (less than 4 mm. long); glandular-puberulent.

Flower bracts broader than the leaves, reddish-purple, with 1 or 2 pairs of linear lobes.



Lower leaves linear, entire; upper ones with 1 to 2 pairs of short lateral lobes.

Look-alike *Castilleja chrysanthia* is lighter yellowish and has a galea that is 6 to 8 mm. long.

FEE'S LIP FERN

Cheilanthes feei

CHFE

Polypodiaceae

fern family

Range: Snake River Canyon, Oregon and Idaho; southeastern Washington, Canada, southwestern and central United States.

Habitat: Growing in cracks of limestone and in calcareous soils; sometimes on basalt or granitic substrates. Dry sites with full sun. Known populations in our area are at low elevations (1,400 to 2,500 feet).

Look-alikes: *Cheilanthes gracillima*, *Cystopteris fragilis*, *Woodsia oregana*, and *Woodsia scopulina*.



Charlie Johnson

FEE'S LIP FERN

CHFE

Cheilanthes feei



Small, tufted, grayish-green rock fern
(up to 2 dm. tall).

Leaf blades very wooly on the bottom, covered with fine hairs. Scales absent.

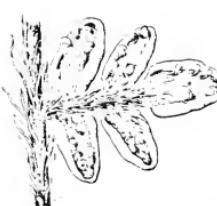
Leaves evergreen, 2 to 4 times pinnate. Ultimate pinnules small and broadly rounded.

Margins of leaves slightly inrolled, but not covering the mature sporangia.



Stems dark purplish-brown; scaly at the base and covered with fine hairs.
One vascular bundle per stem.

Rhizome short and branching, densely covered with brown scales.



Look-alike *Cystopteris fragilis* has two petiole bundles and is non-hairy.

Look-alikes *Woodsia oregana* and *Woodsia scopulina* have lighter brown stems with two petiolar bundles, and much less hairy leaves.

Look-alike *Cheilanthes gracillima* has scales as well as hairs on the bottom of the fronds and stems.

STELLER'S ROCK-BRAKE

Cryptogramma stelleri

CRST

Polypodiaceae

fern family

Range: Wallowa Mountains, Oregon; Washington, Alaska, Nevada, Montana, Utah, northeastern and northcentral United States.

Habitat: Moist, shaded, outcrops and cliff crevices. Usually north-facing aspects. Reportedly always on limestone substrate. Moderate to high elevations in our area (5,000 to 9,000 feet).

Look-alikes: *Aspidotis densa*, *Cryptogramma crispa*.

Notes: This species was last collected in Oregon near Cornucopia in 1934. The plants come up early and die back as the summer progresses.



Bob Moseley

STELLER'S ROCK-BRAKE

CRST

Cryptogramma stelleri



Small (up to 3 dm. tall), rock fern with both fertile and sterile leaves.

Sterile fronds with fan-shaped leaflets (3 to 8 cm. long by 2 to 5 cm. wide).

Fertile fronds longer and narrower with margins that curl under to partially cover the spore-bearing surface.

Base of petioles deep brown to purple, with tips light greenish to straw colored. One vascular bundle per petiole.

Fronds scattered on an elongated, slender rhizome. Fertile fronds obviously taller and more upright than sterile fronds.



Look-alike *Cryptogramma crispa* has leaves in dense tufts, that are more persistent through the summer; and the fertile leaf blades are more strongly reflexed. The stems are also uniformly green.

Look-alike *Aspidotis densa* grows in clumps, and has fertile and sterile leaves that look much more alike. It also has uniformly dark purple stems.

HAYDEN'S CYMOPTERIS

Cymopteris nivalis

CYNI

Apiaceae (Umbelliferae)

parsley family

Range: Strawberry and Steens Mountains in eastern Oregon; northeastern Nevada, southwestern Montana, and western Wyoming. May also occur in the Wallowa and Elkhorn Mountains. Currently known from Grant and Harney Counties in Oregon.

Habitat: Exposed rocky, gravelly slopes in sub-alpine/alpine forb communities; into open, forested sites of subalpine fir (*Abies lasiocarpa*), grand fir (*Abies grandis*), Doug fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*). Known sites are at moderate to high elevations (6,000 to 7,500 feet).

Look-alikes: *Lomatium spp.*

Notes: Recently combined with *Cymopteris bipinnatus* as one species.



Greg Lind

HAYDEN'S CYMOPTERIS

CYNI

Cymopteris nivalis



Rays of umbels longer than 5 mm. when in mature fruiting stage.

Inflorescence a compound umbel, petals white.

Leaves all basal, sub-tripinnatisect, 1.5 to 7 cm. long. Leaves lie more or less prostrate to the ground.

Withered leaf bases from previous seasons sheath the woody base.

Branched caudex surmounts a stout taproot.

Fruit a schizocarp, dorsal ribs winged.

Look-alikes Lomatium spp. have fruit with unwinged dorsal ribs.



CLUSTERED LADY SLIPPER

Cypripedium fasciculatum

CYFA

Orchidaceae

orchid family

Range: Wallowa and Blue Mountains, Oregon; British Columbia through central Washington, southwestern Oregon, California, Idaho, Montana, and Colorado.

Habitat: Coniferous forest. Often northerly aspects, lower 1/3 of slopes, with filtered sunlight. Around springs, and along riparian zones. Sites in our area are at low to moderate elevations (2,500 to 6,500 feet).

Look-alikes: *Clintonia uniflora* leaves, *Cypripedium montanum*.

Notes: Blooms late April to early June. This species is often found growing with mountain lady's-slipper (*Cypripedium montanum*) in our area.



Paula Brooks

CLUSTERED LADY SLIPPER

CYFA

Cypripedium fasciculatum

Small (5 to 20 cm. tall) lady's-slipper with two opposite leaves and 2 to 4 clustered purplish-green flowers.

Long, narrow, greenish bracts subtend the flowers.



Two elliptical to orbicular leaves are borne opposite and sessile on the strongly hairy stem.

Look-alike *Clintonia uniflora* has leaves with distinctly hairy-edges that lie flush with the ground.

Look-alike *Cypripedium montanum* has flowers with a white lip, and the leaves are borne alternately on a taller stalk.

MALE FERN

Dryopteris filix-mas

DRFI

Polypodiaceae

fern family

Range: Northeastern Oregon, southeastern Washington; British Columbia, Idaho, Montana, to New Mexico and Texas; eastern U.S., and Canada.

Habitat: Rocky crevices principally in riparian zones and seepage areas with black cottonwood present; occasional in non-riparian seeps within grand fir stands. Low to moderate elevations in our area (2000 to 4000 feet).

Look-alikes: *Athyrium filix-femina*.

Notes: Most accurately identified in late July and August when the indusia are well-developed. Oregon-sensitive only. Fairly common in the Blue Mountains of Washington.



Paula Brooks

MALE FERN

DRFI

Dryopteris filix-mas



Leaves (fronds) are bipinnate and may be very large (up to 1 m. long).

Look-alike *Athyrium filix-femina* has leaves that may be either bipinnate or tripinnate.

Sori (clusters of sporangia) are located on the veins in both *Dryopteris filix-mas* and its look-alike *Athyrium filix-femina*. The indusium (flap covering the sorus) is horseshoe-shaped and has a definite circular outline in *Dryopteris filix-mas*.

The base of the petiole (stipe) of mature, spore-bearing fronds should have 3-7 prominent veins. However, immature fronds may have only 2 bundles. The petiole is covered with a coarse, hair-like ramentum, generally for the entire under-surface. The base of the stem is very chaffy.

Look-alike *Athyrium filix-femina* has an elongated and slightly curved spore cluster. The indusium is elongated and poorly developed.



Look-alike *Athyrium filix-femina* has a ramentum that is generally confined to the portion of the petiole between the base and the first pinna. The base is not nearly as chaffy as on male fern.

ENGELMANN'S DAISY

Erigeron engelmannii var. *davisii*

EREND

Asteraceae (Compositae)

sunflower family

Range: Snake River grasslands, Hell's Canyon NRA, Oregon and Idaho; western Idaho.

Habitat: Open slopes and dry ridges, in rocky soils above rimrock outcrops. Possibly also open pine woodlands. Low to moderate elevation sites (up to 5,500 feet).

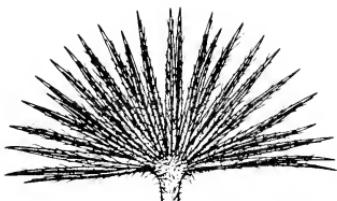
Look-alikes: *Erigeron coulteri*, *Erigeron disparipilus*, and *Erigeron pumilus*.

Notes: Blooms in June. A technical key is necessary to positively identify all Erigerons. When collecting specimens of this species, be sure to get the roots.

ENGELMANN'S DAISY

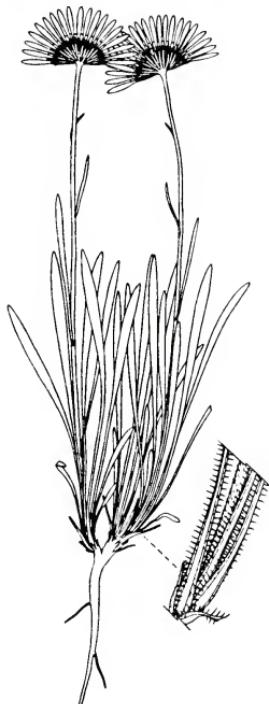
EREND

Erigeron engelmannii var. *davisii*



Small (10 to 30 cm. tall), white daisy with solitary heads. Tap-rooted perennial, covered with upward pointing hairs.

Involucre with spreading, often glandular hairs.



Look-alikes *Erigeron disparipilus* and *Erigeron pumilus* have hairs on the stem that are widely spreading rather than appressed or ascending.

Flower stalks with reduced linear leaves and one (rarely two) head per stalk. 35 to 55 ray flowers per head (each ray 8 to 14 mm. long). Pappus in two rows, the inner bristly, the outer sometimes obscure.

Basal leaves linear-oblong (up to 10 cm. long by 4 mm. wide), with coarsely hairy edges and petioles.

Look-alike *Erigeron coulteri* also has white ray flowers; but it has fibrous roots, well developed leaves on the stem, and tends to grow in wetter areas at higher elevations.

ROSS' AVENS

Geum rossi var. *turbinatum*

GEROT

Rosaceae
rose family

Range: Elkhorn Mountains, Oregon; Rocky Mountains. Possibly also occurs in the Wallowa and Strawberry Mountains of Oregon.

Habitat: Talus slopes, rocky ridgetops, and rocky soil. North-facing cliffs and cirques. Basalt, granite, or loose granodiorite substrate. Sub-alpine, high elevation sites (7,000 to 9,000 feet).

Look-alikes: *Geum triflorum*, *Horkelia fusca*, and *Potentilla* spp..

Notes: Blooms July to August. This species is fairly common in the Rocky Mountains, but is disjunct in northeastern Oregon.



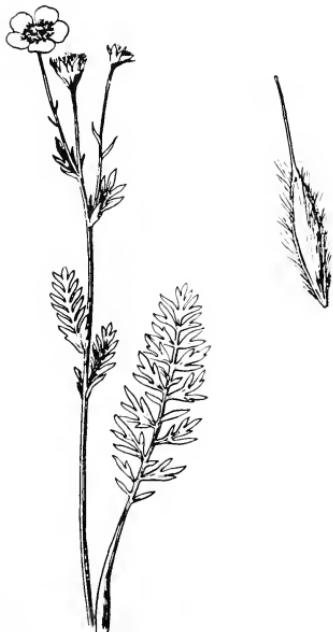
Paula Brooks

ROSS' AVENS

GEROT

Geum rossi var. *turbinatum*

Perennial, yellow-flowered avens. Plant very hairy overall, growing from a stout, woody, rootstock.

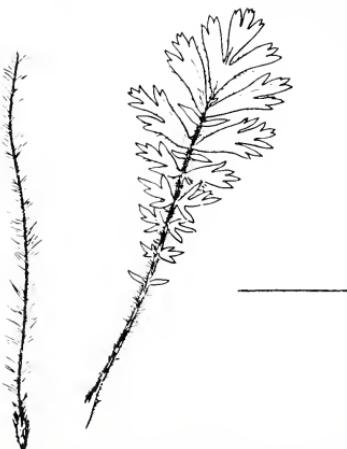


Flowering stems simple, hairy (up to 20 cm. tall); with small alternate leaves. Flowers usually one per stem; with a hairy, strongly veined, purplish calyx, and yellow, widely-spreading petals (10 to 12 mm. long). Many stamens arranged on the top of the flower cup.

Fruits hairy, with a straight, non-hairy beak (2.5 to 4 mm. long).

Basal leaves silvery-green (covered with hairs), pinnately divided and toothed.

Look-alikes *Potentilla* spp. have non-hairy fruits that have a style often attached to the base, instead of the tip.



Look-alike *Horkelia fusca* has several white to pinkish flowers in each head; and pinnately compound stem leaves.

Look-alike *Geum triflorum* has leaves that are not nearly as hairy; and the stem leaves are much more divided. The flowers bloom much earlier and are white to reddish, with a deep red calyx.

PUZZLING HALIMOLOBOS

Halimolobos perplexa var. *perplexa*

HAPEP

Brassicaceae (Cruciferae)
mustard family

Range: Snake and Salmon Rivers, Idaho. Possibly also occurs on the Oregon side of the Snake River.

Habitat: Loose rock and gravel banks, open ridges. Mostly grassland areas, but also reported among ponderosa pine (*Pinus ponderosa*). Known sites are at low to moderate elevations (3,200 to 7,000 feet).

Look-alikes: *Descurainia* spp. and several other mustards. Use of a taxonomic key is necessary to distinguish the different species of mustards.

Notes: Blooms June to July. This species has not yet been found in Oregon. Seed pods are necessary to properly identify this species.



Doug Henderson

PUZZLING HALIMOLOBOS

HAPEP

Halimolobos perplexa var. *perplexa*



Short-lived perennial or biennial mustard (1 to 3.5 dm. tall).

Petals white; sometimes pinkish tinged (6 to 8 mm. long). Sepals saccate at the base.

Seed pods long and narrow (> 8 times as long as broad); round in cross-section; hairy when young. Pod constricted around the seeds. Seeds biseriate.

Flowering stems leafy, with stellate hairs. Stem leaves not clasping; smaller than basal leaves.

Basal leaves in a rosette, oblanceolate, wavy margined (2 to 4 cm. long).

Look-alikes *Descurainia* spp. have yellow flowers and pinnately divided leaves.

BELLARD'S KOBRESIA

Kobresia myosuroides

KOMY

(*Kobresia bellardii*)

Cyperaceae

sedge family

Range: Wallowa and Steens Mountains, Oregon; across Canada, Colorado, Utah, and Sierra Mountains of California.

Habitat: Open, dry to moderately wet areas; alpine ridges, often above timberline. Wet alpine meadows. Often on calcareous soils. Known sites in our area are at high elevations (8,000 to 9,200 feet).

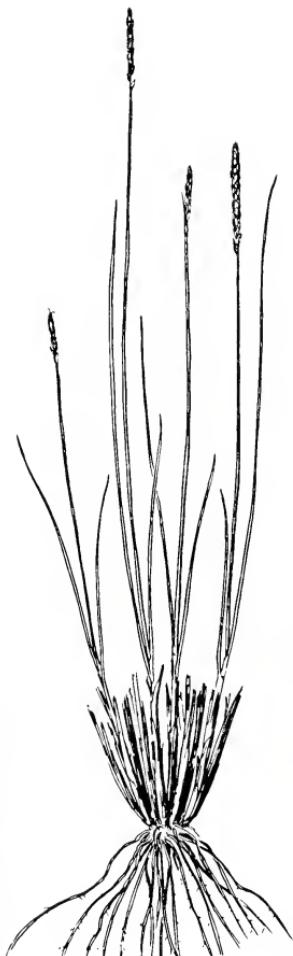
Look-alikes: *Carex* spp., *Kobresia simpliciuscula*.

Notes: Blooms June to August.

BELLARD'S KOBRESIA

KOMY

Kobresia myosuroides
(*Kobresia bellardii*)



Small (up to 5 dm. tall), tufted, sedge-like perennial.

One small spike per flowering stem (1 to 3 cm. long). Each spikelet has one male flower above one female flower. Stamens and stigmas 3.

Edges of the fruit (perigynium) are unsealed.

Leaves wiry and narrow (up to 0.6 mm. wide), often channeled or inrolled. Leaf sheaths present from previous year; old leaves deciduous.

Look-alike *Kobresia simpliciuscula* has persistent leaves, tends to be larger overall, and has several flowering spikes per stalk. It also tends to occur at lower elevations and in wetter habitats.

Look-alikes *Carex spp.* have perigynia with sealed edges, totally enclosing the seed.

SIMPLE KOBRESIA

Kobresia simpliciuscula

KOSI

Cyperaceae
sedge family

Range: Wallowa Mountains, Oregon; across Canada, Idaho, Colorado.

Habitat: Wet areas; stream-sides, bogs, pond edges, and meadows.
Moderate to high elevations (5,500 to 8,500 feet).

Look-alikes: *Carex* spp. and *Kobresia myosuroides*.

Notes: Blooms June to August.



Peter Lesica

SIMPLE KOBRESIA

KOSI

Kobresia simpliciuscula

Small (up to 5 dm. tall), tufted, sedge-like perennial.

3-12 spikes per flowering stem (each 5 to 15 mm. long). Each spike is subtended by a papery bract; with the lowest bract leaf-like, but shorter than the whole inflorescence. Each spikelet has one male flower above one female flower, or just one female flower. Stamens and stigmas 3.

Edges of the fruit (perigynium) are unsealed.

Leaves long and narrow (up to 1 mm. wide). Dried leaves from previous year persistent at base of plant.

Look-alike *Kobresia myosuroides* has deciduous leaves, is smaller overall, and has one long flowering spike per stalk.

Look-alikes *Carex* spp. have perigynia with sealed edges, totally enclosing the seed.



PRICKLY PHLOX

Leptodactylon pungens ssp. *hazeliae*

LEPUH

Polemoniaceae

phlox family

Range: Snake River Canyon, Oregon and Idaho.

Habitat: Sheer rock outcrops and talus-covered slopes in the bottom of the Snake River Canyon. Grows with Sandberg's bluegrass (*Poa sandbergii*), bluebunch wheatgrass (*Agropyron spicatum*), rabbit brush (*Purshia tridentata*), and hackberry (*Celtis reticulata*). Known sites are at low elevations (below 2,000 feet).

Look-alikes: *Leptodactylon pungens*, *Linanthastrum nuttallii*, and *Phlox* spp..

Notes: Blooms April through June. This is a newly described subspecies. It is not in the local floras as a subspecies.



Bob Meinke

PRICKLY PHLOX

LEPUH

Leptodactylon pungens ssp. *hazeliae*



Sprawling to mounded perennial shrub; stipitate-glandular overall (1 to 2 dm. tall).

One to three flowers borne at the tips of each stem.

Hyaline intervals of calyx well developed; calyx lobes have slightly unequal lengths (8 to 13 mm. long). Corolla white to lilac (2 to 3 cm. long). Stamen filaments attached equally in the corolla.

Leaves sessile, divided into five to nine long, narrow, sharply pointed segments (12 to 18 mm. long); pliable, bright green. Upper leaves opposite; lower alternate.

Look-alikes *Phlox* spp. have stamens that are attached at uneven levels in the corolla.

Look-alikes *Phlox* spp. and *Linanthus-nuttallii* have less prickly leaves, and less prominent membranes in the calyx sinuses.

Look-alike *Leptodactylon pungens* is more erect and woody; has alternate leaves above, wider stiffer leaflets, shorter calyx lobes, and 5 to 9 smaller flowers per inflorescence.

RED-FRUITED LOMATIUM

Lomatium erythrocarpum

LOER

Apiaceae (Umbelliferae)

parsley family

Range: Blue Mountains (Elkhorns), Oregon. Possibly also occurs in the Wallowa and Strawberry Mountains.

Habitat: Open gravelly soils and talus. Dry, south or east facing slopes of high ridges. Soils derived from granodiorite. Sagebrush (*Artemisia* sp.), mountain mahogany (*Cercocarpus ledifolius*) whitebark pine (*Pinus albicaulis*) plant associations. Often growing with alpine knotweed (*Polygonum phytolaccaeefolium*). Full sun exposure. Known sites are at high elevations (7,500 to 8,500 feet).

Look-alikes: *Cymopterus terebinthinus*, *Lomatium cusickii*, *Lomatium greenmanii*, and *Lomatium oreganum*.

Notes: Blooms in June, as the snow melts. Fruits mature by mid-July or early August. This is a newly described species. It is not in any of the local floras.



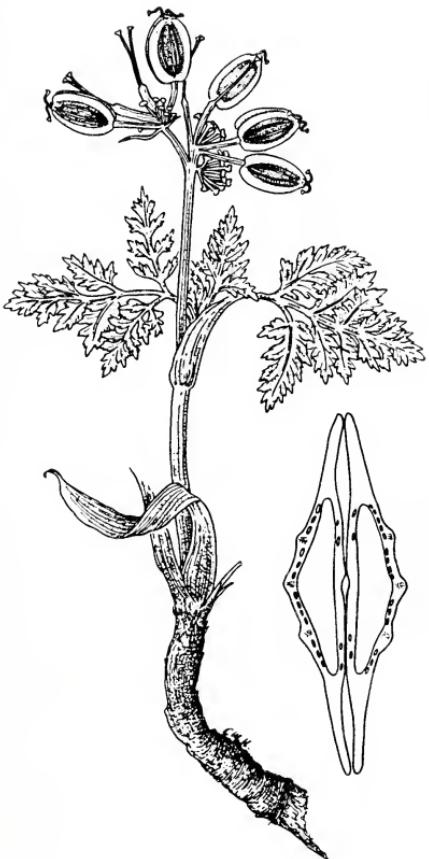
Bob Meinke

RED-FRUITED LOMATIUM

LOER

Lomatium erythrocarpum

Small, low-growing, perennial, **non-hairy, odorless**, parsley-like herb (up to 10 cm. tall). Plants not matted.



Plants have 1 to 3 leaves on the flowering stem. Leaflets dull, olive-green, congested, 2 to 4 times pinnate, triangular in outline. Leaves tend to lie flat against the ground.

Flowers white to purplish. Bracts lacking below the flowers (no involucre).

Fruits reddish when mature; non-hairy, large (7 to 9 mm. long), oblong and flattened; drooping on short pedicels (3 to 7 mm. long). Dorsal wings lacking, lateral wings thin.

Look-alike *Cymopterus terebinthinus* has upright leaves and fruits with dorsal wings.

Look-alikes *Lomatium cusickii* and *Lomatium greenmanii* both have distinctly leafy flowering stems, with the smallest leaf divisions long and narrow (greater than 5 mm. long).

Look-alike *Lomatium oreganum* has yellow flowers and is slightly hairy.

GREENMAN'S LOMATIUM

Lomatium greenmanii

LOGR2

Apiaceae (Umbelliferae)

parsley family

Range: Known only from Mt. Howard and nearby vicinity; in the Wallowa Mountains, Oregon.

Habitat: Open, sub-alpine ridges and gentle, rocky slopes. Sites are subject to high winds, cold winter temperatures, and late spring thawing of the snow-pack. Soil thin, fine-textured; with red, calcareous substrate (Hurwal Formation). One population is shaded by white-bark pine (*Pinus albicaulis*). High elevation sites (8,000 to 9,000 feet).

Look-alikes: *Cymopterus* spp., *Lomatium cusickii*, and *Lomatium organum*.

Notes: Blooms in July. Fruits in August. The floras report the flowers to be white, based on dried specimens. They are actually yellow in life.



Ron Kranz

GREENMAN'S LOMATIUM

LOGR2

Lomatium greenmanii

Dwarf, non-hairy perennial from a taproot (less than 10 cm. tall).

Flowers yellow, in umbels with only 1 to 3 **fertile flowers** and 1 to 2 sessile sterile flowers **per umbel**. Involucel bracts few, very narrow, white-papery margined.

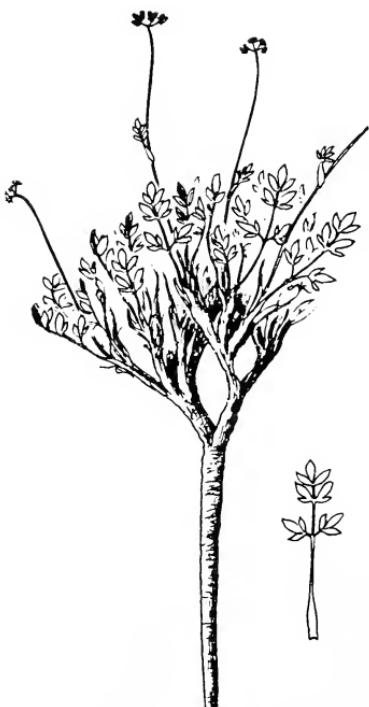
Look-alike *Lomatium cusickii* has white flowers, with 5 to 25 rays per umbel; each ray 1 to 10 cm. long.

Fruits non-hairy, ovate (3 to 3.5 mm. long by 2 to 2.5 mm. wide). Dorsal wings lacking.

Look-alikes *Cymopterus* spp. have obvious wings on the dorsal side of the mature fruits.

Leaves pinnate (3 to 6 cm. long), lanceolate-ovate; glabrous and white powdery (glaucous). Leaves mostly basal; but one **small leaf** present on each flowering stalk.

Look-alike *Lomatium oreganum* is smaller overall, and has smaller, more oblong, hairy leaves. It also has no leaves on the flowering stalks. The fruits are slightly hairy, and oval-elliptic (4.5 to 6 mm. long).



SALMON-FLOWERED LOMATIUM

Lomatium salmoniflorum

LOSA

Apiaceae (Umbelliferae)

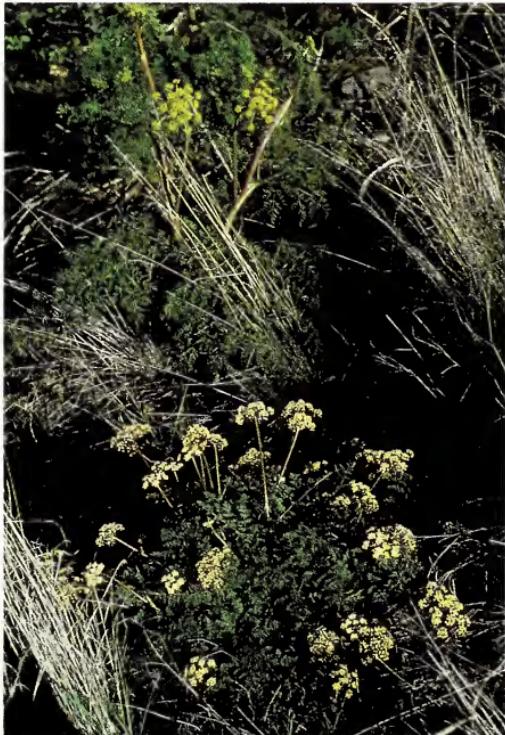
parsley family

Range: Northeast Oregon to west central Idaho.

Habitat: Open, rocky slopes at lower elevations.

Look-alikes: *Lomatium grayi*.

Notes: Blooms March through April. This species is thought to be extinct in Oregon. It is not on the sensitive species lists for Washington or Idaho.



Bob Moseley

SALMON-FLOWERED LOMATIUM

LOSA

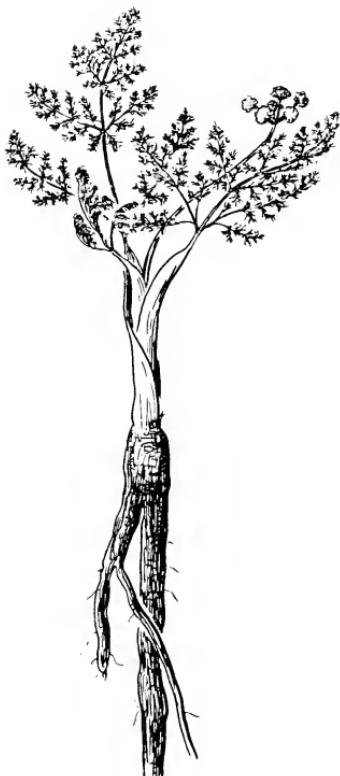
Lomatium salmoniflorum

Perennial, parsley-like plant (20-60 cm. tall).



Leaves glabrous, ternate to pinnately dissected, arranged more or less in one plane.

Look-alike *Lomatium grayi* has leaves that are dissected into 100's to 1000's of ultimate segments which occupy several planes.



Flowers salmon-yellow in color.

Look-alike *Lomatium grayi* has distinctly yellow flowers.

Prominent, naked rootcrown surmounting a **simple taproot**.

Look-alike *Lomatium grayi* has a branched caudex that is sheathed in past year's petiole bases.

OREGON SEMAPHORE GRASS

Lophochlaena oregonia
(*Pleuropogon oregonus*)
Poaceae (Gramineae)
grass family

PLOR

Range: Two widely scattered areas in eastern Oregon (Union and Lake Counties). Possibly occurs throughout the Blue Mountains.

Habitat: Wet meadows and streambanks in grassy, prairie areas. Sluggish water in depressions and sloughs. Flat ground, open exposure. Associated species include tufted hairgrass (*Deschampsia caespitosa*), sedges (*Carex spp.*), sloughgrass (*Beckmannia syzigachne*), and common spike-rush (*Eleocharis palustris*). Low to moderate elevations (2,500 to 6,000 feet).

Look-alikes: *Lophochlaena refracta* (*Pleuropogon refractus*).

Notes: Blooms June to July. Fruits July to August.



Paula Brooks

OREGON SEMAPHORE GRASS

PLOR

Lophochlaena oregonia
(*Pleuropogon oregonus*)

Large, non-hairy, rhizomatous perennial grass (40 to 90 cm. tall).



Inflorescence one-sided, with 6 to 8 spikelets per stalk, and 7 to 14 florets per spikelet. Spikelets start out pointing upwards, then droop as they mature. Upper florets pistillate, lower perfect. Glumes persistent, nerveless. Lemmas 5.5 to 7 mm. long, prominently scabrous-nerved, with an awn from the tip. Palea w/two awns along keels, attached 1/3 up from the base.

Leaves flat and wide (4 to 7 mm. wide by 8 to 18 cm. long), with a sharply pointed tip. Purplish leaf sheaths closed 3/4 of length.

Look-alike *Lophochlaena refracta* (*Pleuropogon refractus*) lacks the awns on the palea, and has longer lemmas (7 to 8 mm. long) that have less prominent, non-scabrous nerves.

COLONIAL LUINA

Luina serpentina

LUSE2

Asteraceae (Compositae)
aster family

Range: Aldrich Mountains; Grant County, Oregon.

Habitat: In dry shrub, open juniper, ponderosa pine, and Douglas-fir sites. Along talus chutes and on rock outcrops of siltstones, shales and occasionally serpentines. Known sites range from low to moderate elevations (3,300 to 7,000 feet).

Look-alikes: Silkier forms of gray rabbit brush (*Chrysothamnus nauseosus*) may appear similar at a distance.

Notes: Blooms in July. The bright silver-aqua foliage permits easy identification outside the flowering period from May to October.

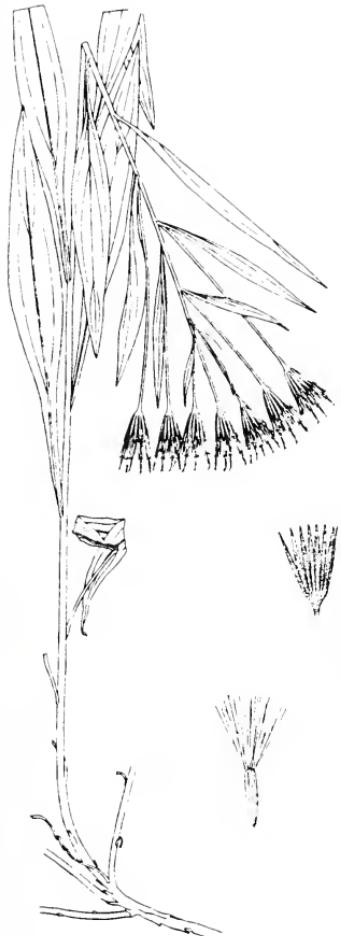


Greg Lind

COLONIAL LUINA

LUSE2

Luina serpentina



Perennial forb arising from a prostrate or ascending, branched, woody base. Colonies can form clumps several meters in diameter.

Leaves densely white-woolly (tomentose) underneath; sparsely so on the upper surface (5-13 cm. long).

Several discoid heads form a flat-topped (corymbose) inflorescence. Flowers yellow.

Involucre white-woolly, 8-10 mm. high.

Fruit a cypsela. Pappus of densely tufted bristles.

Herbaceous stems densely white-woolly, 30-50 cm tall.

CUSICK'S LUPINE

Lupinus cusickii
(*Lupinus lepidus* var. *cusickii*)
Fabaceae (Leguminosae)
pea family

LULEC2

Range: Northeastern Oregon on the south flanks of the Blue mountains. Currently known from the Unity area, Stinkingwater Pass, and around Brothers (Baker, Harney, Crook, and Deschutes Counties).

Habitat: Grows on volcanic ash and clay soils in big sagebrush and juniper plant associations. Sites are on distinctive ash outcrops, with the plants concentrated in shallow, eroded drainage channels. Known sites are moderate elevations (3,900 to 4,700 feet).

Look-alikes: *Lupinus lepidus* var. *aridus*, *Lupinus lepidus* var. *utahensis*, and *Lupinus saxosus*.

Notes: Blooms June to August.



Paula Brooks

CUSICK'S LUPINE

LULEC2

Lupinus cusickii

(*Lupinus lepidus* var. *cusickii*)



Caespitose perennial lupine; under 15 cm. tall.

Leaves palmately compound, abundantly hairy.

Inflorescence a closely flowered raceme, **not extending above the leaves**.

Flowers bluish to purple (8 to 13 mm. long). **Banner not hairy on the back**; well reflexed from the rest of flower. **Pedicel 3 mm. or more long**.



Wing petals broad (greater than 8 mm. long and width 3/5 of length).

Look-alike *Lupinus lepidus* var. *utahensis* has slender wing petals (7-8 mm. long and width less than 3/5 of length).

Look-alike *Lupinus lepidus* var. *utahensis* has pedicels shorter than 3 mm.



Inflorescences of other caespitose lupines will extend partly to entirely beyond the foliage (with the exception of *Lupinus lepidus* var. *utahensis*).

SABIN'S LUPINE

Lupinus sabinii

LUSA2

Fabaceae (Leguminosae)
pea family

Range: Spine of the Northern Blue Mountains in Walla Walla County, Washington; Umatilla, Wallowa, and Union Counties, Oregon.

Habitat: Open grassy slopes in mixed coniferous forest; road cuts and disturbed soils; all aspects. Low to moderate elevations (3300-5500 feet).

Look-alikes: *Lupinus sulphureus*; *Lupinus polyphyllus* (in fruit).

Notes: Blooms June to July. Washington sensitive only. Fairly common in the Blue Mountains of Oregon south to Interstate 84.



Karl Urban

SABIN'S LUPINE

LUSA2

Lupinus sabinii

An ususally robust perennial lupine from a branched crown (may reach heights exceeding 1 m. tall).



Flowers are bright yellow and relatively large. The banner index is large with the banner flaring upward from the wings. Banner not hairy, nor is the calyx spurred.

Look-alike *Lupinus polyphyllus* has purple flowers.

Fruits are thin-walled, and covered with tannish-yellow hairs. Seeds are pinkish-brown and 4 to 7 per pod.

Leaves are softly hairy, large, and gray-green. Leaves are palmately compound with 8 to 11 leaflets. Leaves mostly on the flowering stem; not many basal leaves at flowering time.

Look-alike *Lupinus sulphureus* has a less reflexed banner, and obvious basal leaves when in flower.

GROUND CEDAR

Lycopodium complanatum

LYCO2

Lycopodiaceae

club-moss family

Range: Blue Mountains, Oregon; northern Oregon and Washington Cascades; Alaska, Idaho, across northern United States, Canada. Possibly also occurs in the Wallowa Mountains.

Habitat: Coniferous forest with thick duff. Often on rotting wood or in acidic soil. Also in meadows and on open ridgetops. Only known site in our area is at moderate elevation (4,300 feet).

Look-alikes: Unique species in our area.

Notes: There is currently one known population of this species in eastern Oregon, on the La Grande Ranger District of the Wallowa-Whitman National Forest.



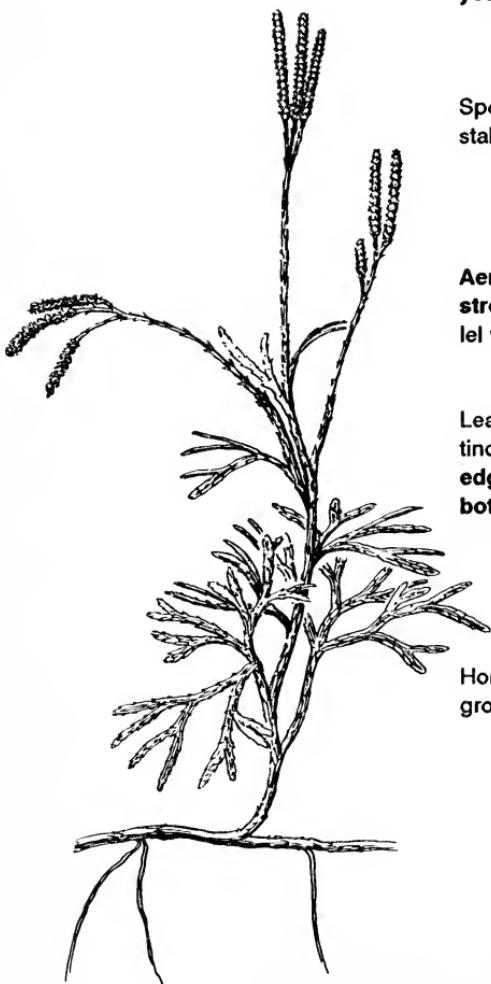
Paula Brooks

GROUND CEDAR

LYCO2

Lycopodium complanatum

Perennial, loosely mat-forming, ever-green club-moss. Plant resembles young red cedar sprays.



Spore-bearing cones one to three per stalk.

Aerial stems yellowish-green, strongly flattened, forked and parallel with the ground (10 to 30 cm. tall).

Leaves scaly (1 to 2 mm. long), distinctly four-ranked. Two leaves on edges larger than ones on top and bottom.

Horizontal stems creeping or underground.

BANK MONKEY-FLOWER

Mimulus clivicola

MICL

Scrophulariaceae

figwort family

Range: North Pine Creek, Imnaha-Snake Divide, Hell's Canyon NRA, Oregon; west-central Idaho, possibly southeastern Washington.

Habitat: Open rocky slopes, often with some soil development. Small, narrow draws, and seepage areas that are moist in the spring, then dry out as the season progresses. Southerly aspects, with steep slopes (> 60%). Soils are shallow, reddish-clay to clay loam; derived from basalt. Often growing with Cusick's camas (*Camassia cusickii*) in our area. Known sites in our area are at low to moderate elevations (2,500 to 5,500 feet).

Look-alikes: *Mimulus breweri* and *Mimulus nanus*.

Notes: Blooms May to July. Bank monkey-flower has a distinctly skunkly (musky) odor when the leaves are rubbed.



Paula Brooks

BANK MONKEY-FLOWER

MICL

Mimulus clivicola



Small, annual, pink monkey-flower (2 to 10 cm. tall). Plant can be simple or branched, and is covered with small, gland-tipped hairs.

Leaves opposite, obscurely nerved, narrow (less than 1.2 cm. wide); tips obtuse or slightly acutish.

Corolla light to medium pink, with yellow in throat (1 to 2.5 cm. long).

Look-alike *Mimulus breweri* also has pink flowers, but the corollas are much smaller and more slender (5 to 10 mm. vs. 10 to 25 mm. long).

Short flower stalks extend to 3 to 7 mm. in fruit. Fruiting capsule long and narrow.



Look-alike *Mimulus nanus* has deep magenta flowers; nearly sessile, ovate, fruiting capsules (pedicels 1 to 3 mm. long); is less hairy, and has no odor. Both species can be simple or branched. It also tends to be in drier habitats, but can be found growing with bank monkey-flower.

MEMBRANE-LEAVED MONKEY-FLOWER

Mimulus hymenophyllum

MIHY

Scrophulariaceae

figwort family

Range: Snake River Canyon, Hell's Canyon NRA, Oregon. Possibly on the Idaho side of Hell's Canyon also.

Habitat: Moist cracks of deteriorating basalt cliffs. Steep canyon walls. Diffuse sunlight; west or southwest exposure. Known sites are at low elevations (2,500 to 4,000 feet).

Look-alikes: *Mimulus guttatus*, *Mimulus moschatus*, and *Mimulus washingtonensis*.

Notes: Blooms April through August. Fruits start to form in June. This is a newly described species; it is not in any of the floras.



Bob Meinke

MEMBRANE-LEAVED MONKEY-FLOWER

MIHY

Mimulus hymenophyllum



Prostrate to sub-erect, annual herb (0.5 to 2.5 dm. long).

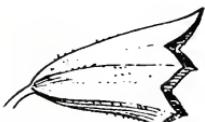
Plant slimy; covered with uniformly short, glandular hairs (less than 0.8 mm. long).

Calyx lobes equal, green. Corolla light yellow, bilabiate; 3 to 4 times longer than the calyx (15 to 30 mm. long); with scattered red dots on lower lip and in the throat. Style glabrous. Fruiting capsule ovate.

Leaves few (3 to 7 pairs per stem), lanceolate to ovate, oppositely arranged. **Petioles of stem leaves equal to, or longer than the leaf blades.**

Look-alike *Mimulus moschatus* has more, longer, less uniform length hairs; it also has petioles shorter than the leaf blades; and it is a perennial.

Look-alike *Mimulus washingtonensis* has petioles shorter than the leaf blades; and a lanceolate fruiting capsule.



Look-alike *Mimulus guttatus* has an upper calyx tooth that is obviously longer than the others; it also has petioles shorter than the leaf blades; and it also is not slimy.

STALK-LEAVED MONKEY-FLOWER

Mimulus patulus ssp. *patulus*

MIPA

Scrophulariaceae

figwort family

Range: Snake River Canyon, Hell's Canyon NRA, Oregon; extreme northeastern Oregon (Wallowa County).

Habitat: Damp ground; wet cliffs, roadcuts. Lower elevations.

Look-alikes: *Mimulus guttatus*, *Mimulus hymenophylloides*, *Mimulus washingtonensis*.

Notes: Blooms May through August. This species is not in *Flora of the Pacific Northwest* (Hitchcock and Cronquist).



Bob Meinke

STALK-LEAVED MONKEY-FLOWER

MIPA

Mimulus patulus

Slender, annual monkey-flower (5 to 20 cm. tall).

Corolla yellow, not obviously bilabiate, small (less than 13 mm. long). Calyx teeth uniform; less than 1/3 the length of the tube. Style glabrous.

Look-alike *Mimulus guttatus* has a calyx with the upper tooth obviously much longer than the others.

Stems glandular-puberulent; with uniformly short hairs (less than 1.5 mm. long).

Leaves cordate to broadly lanceolate, strongly toothed along the edges. **Petioles of cauline leaves equal to or longer than the blades.**

Look-alikes *Mimulus hymenophyllum* and *Mimulus washingtonensis* both have larger corollas (12 to 15 mm. long) that are obviously bilabiate; with white palate ridges on the inner throat.

WASHINGTON MONKEY-FLOWER

Mimulus washingtonensis

MIWA

Scrophulariaceae

figwort family

Range: Eastern Oregon and Washington; Northern Idaho. Known populations in Oregon are concentrated within the John Day River drainage.

Habitat: Vernal seeps in Idaho fescue (*Festuca idahoensis*) and Sandberg's bluegrass (*Poa sandbergii*) scablands. Seepage zones along streams; rocky crevices. Low elevation sites (2,100 to 3,300 feet).

Look-alikes: Small forms of *Mimulus guttatus*, *Mimulus patulus*.

Notes: Blooms from mid-June until early July, depending upon seasonal moisture. Frequently grows with the look-alike.



Bob Meinke

WASHINGTON MONKEY-FLOWER

MIWA

Mimulus washingtonensis

Small, hairy, annual snapdragon-like plant (.4 to 2 dm. tall).

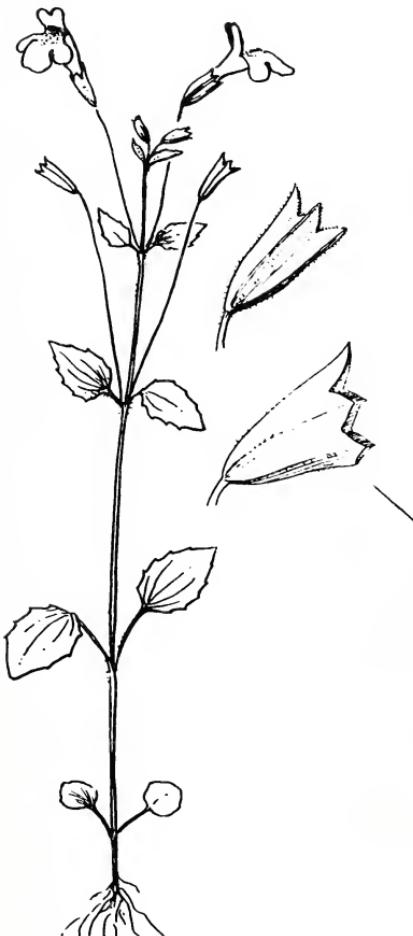
Flowers bright yellow and relatively large compared to the small size of the plant (10 to 20 mm. long). Calyx teeth are all of equal length. Corolla strongly bilabiate. Corolla 1.5 to 3 times longer than the calyx.

Look-alike *Mimulus guttatus* has calyx teeth that are unequal, with the uppermost tooth being much longer than the other four.

Look-alike *Mimulus patulus* has smaller corollas that are not obviously bilabiate (less than 13 mm. long).

Leaves small, blade ovate to subcordate, slightly toothed. Petioles on stem leaves shorter than the leaf blades.

Look-alike *Mimulus hymenophyllum* has petioles on the stem leaves longer than the leaf blades; and a corolla 3 to 4 times longer than the calyx.



MACFARLANE'S FOUR-O-CLOCK

Mirabilis macfarlanei

MIMA

Nyctaginaceae

four-o'clock family

Range: Imnaha River, Oregon; Snake River, Oregon and Idaho; Salmon River, Idaho.

Habitat: Lower slopes of rocky, open steppe in Hell's Canyon. Also occurs on gravel bars, rock slides, and canyon walls. Usually west to southeasterly exposures. Full sunlight exposure. Talus rock underlies the loose soil substrate. Grows in bunchgrass and shrubland communities; bluebunch wheatgrass-Sandberg's bluegrass (*Agropyron spicatum-Poa sandbergii*) and smooth sumac/bluebunch wheatgrass (*Rhus glabra/Agropyron spicatum*). All known sites are at low elevations (1,000 to 1,500 feet).

Look-alikes: The flowers are distinctive.

Notes: Blooms from May through June. When in bloom it is very conspicuous in its open, grassy habitat. This is the only federally listed plant in our area.

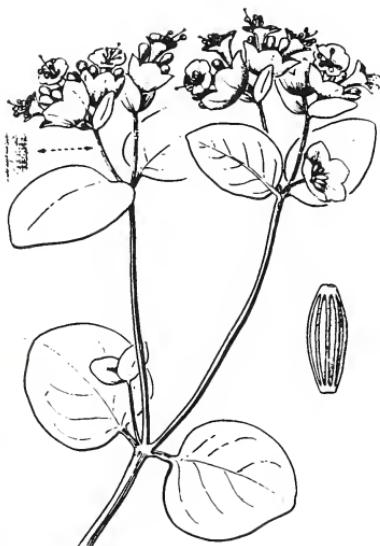


Jerry Hustata

MACFARLANE'S FOUR-O-CLOCK

MIMA

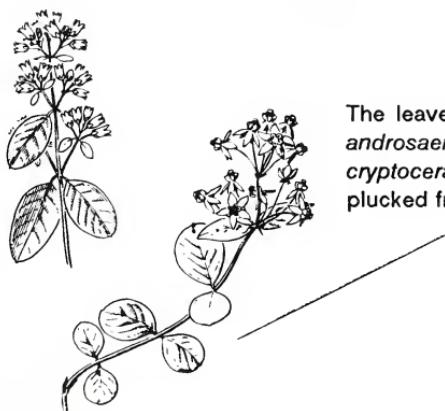
Mirabilis macfarlanei



Perennial, woody herb, from a deep-seated rootstock. Stems freely branched, forming a **small, bush-like habit**.

Flowers large, showy, magenta (up to 25 mm.). Several flowers are clustered together and subtended by a purplish-green papery bract (involucelle).

Leaves dark green, round to ovate, leathery; arranged oppositely on the stem.



The leaves of look-alikes *Apocynum androsaemifolium* and *Asclepias cryptoceras* have a milky juice when plucked from the stem.

PINE BROOMRAPE

Orobanche pinorum

ORPI

Orobanchaceae

broomrape family

Range: Throughout the Pacific Northwest.

Habitat: Mixed coniferous forest often in association with ocean spray (*Holodiscus discolor*), a shrub on which it is a root parasite. Low to moderate elevation sites (2200 to 5500 feet).

Look-alikes: *Orobanche californica*.

Notes: Blooms late July to early August. Sensitive in Washington only, more common in Oregon.



Paula Brooks

PINE BROOMRAPE

ORPI

Orobanche pinorum



Non-green parasitic perennial plants that are relatively tall (1.5 to 2 dm. tall).

Flowers are yellowish-white with purplish overtones. Numerous tubular flowers within the rather dense inflorescence.

Calyx lobes are approximately equal to the length of the calyx tube (5 to 8 mm. long).

Look-alike *Orobanche californica* has larger (10 to 20 mm.) calyx lobes that are much longer than the calyx tube.

Leaves are tiny and inconspicuous; narrowly triangular and clasping the stem.

The usually solitary stem arises from a globose root-mass.

HENDERSON'S RICEGRASS

Oryzopsis hendersonii

ORHE

Poaceae (Gramineae)

grass family

Range: Ochoco, Blue and Wallowa Mountains, Oregon; south central Washington.

Habitat: Scabby openings with a lithosolic substrate. Surrounding areas may be ponderosa pine forest or grassy steppe rangeland. Dry, heavy clay to gravelly, shallow soil. Aspect is mostly south to south-west, with gentle slopes. Associated species include Sandberg's bluegrass (*Poa sandbergii*), stiff sage (*Artemisia rigida*), and buckwheats (*Eriogonum spp.*). Known sites are at moderate elevations (3,400 to 5,400 feet).

Look-alikes: *Danthonia unispicata*, *Poa sandbergii*, *Stipa spp.*. When in flower or fruit, this grass is very distinctive.

Notes: Blooms from May to July; fruits June to July. There are many acres of potential habitat for this species in northeastern Oregon.



Paula Brooks

HENDERSON'S RICEGRASS

ORHE

Oryzopsis hendersonii



Strongly tufted, small, perennial bunchgrass.

Flowering stalks loose and drooping (10 to 40 cm. tall), with semi-solid culms. Glumes obtuse (sometimes with acute tip) and persistent on plant. **Lemmas one per glume** (3 to 5 mm. long), non-hairy. **Deciduous awn attached to tip of each lemma** (6 to 10 mm. long).

Look-alikes *Stipa spp.* have twisted awns that are persistent throughout the season.

Fruit a hard, reddish-black, shiny, globose seed.

Leaves mostly basal, blades light green, wiry and narrow (2 mm. wide).

The basal leaves of look-alike *Poa sandbergii* look very similar, but they are less rough to the touch.

The leaves of look-alike *Danthonia unispicata* have very hairy ligules; and broader, flatter leaves.

BRIDGE'S CLIFF-BRAKE

Pellaea bridgesii

PEBR4

Polypodiaceae
fern family

Range: Wallowa and Elkhorn Mountains, Oregon; Sierra Nevada Mountains, California; mountains of central Idaho.

Habitat: Dry rock outcrops, ridgelines, upper 1/3 slopes. Metamorphic sedimentary rock (argillite), granitics, also possibly basalt. Cracks of solid rock, or loose talus slopes. From open to moss or forb covered areas. Southerly to easterly aspects; mostly in full sun, but occasionally under trees. Known sites in our area are at moderate elevations (5,000 to 7,000 feet).

Look-alikes: *Pellaea breweri*.

Notes: This evergreen species is identifiable any time it is not covered by snow.

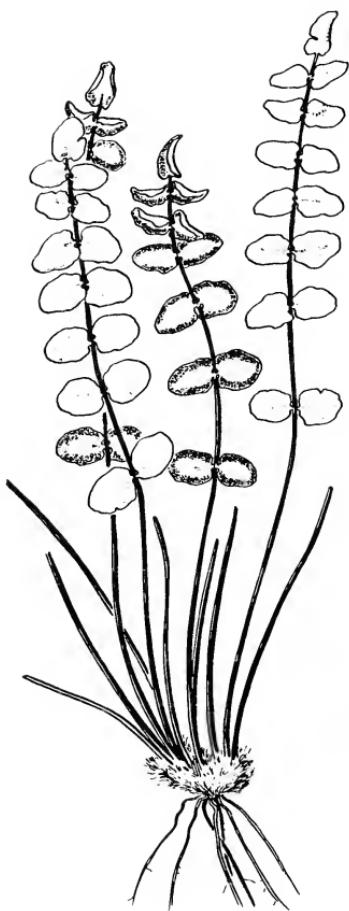


Paula Brooks

BRIDGE'S CLIFF-BRAKE

PEBR4

Pellaea bridgesii



Small, hairless, tufted rock fern (up to 2 dm. tall).

Leaf segments round, entire, bluish-green. Leaves evergreen; often folded in half, covering spores.

Spores borne naked (no indusium), in a wide band just within the leaf margin. Edges of leaves not strongly curled under.

Stem with one vascular bundle; wiry, brownish black.

Look-alike *Pellaea breweri* has V-shaped lower leaves with strongly curled edges; and petioles that break easily at the base. It tends to occur on limestone substrate.



LEAST PHACELIA

Phacelia minutissima

PHMI

Hydrophyllaceae
waterleaf family

Range: Snake-Wallowa grasslands of northeastern Oregon; mountains near Elko, Nevada, Wenatchee Mountains of Washington, and Camas County Idaho. May occur throughout the Blue and Wallowa Mountains.

Habitat: Damp ground, reported from a variety of habitats; moist stream-banks in sagebrush communities, under quaking aspen (*Populus tremuloides*); moist, sunny flats; and edges of mesic meadows. Reportedly grows with false helleborine (*Veratrum sp.*) in Washington. Known sites are moderate elevations (5,000 to 7,000 feet).

Look-alikes: *Phacelia incana*, *Nama spp.*

Notes: Blooms June to July. This species was last reported for northeastern Oregon in Wallowa County in 1934. It is best surveyed during wet years since it is an annual species dependent upon high moisture for germination.



Eliroy Burnett

LEAST PHACELIA

PHMI

Phacelia minutissima

Dwarf, branching annual; to 10 cm. tall.

Herbage stipitate-glandular.

Inflorescence a helicoid cyme.

Look-alikes *Nama* spp. have non-helicoid cymes.

Flowers lavender, small (2.5 to 4 mm. long).

Leaves linear-oblong to oblanceolate (10 mm. long by 4 mm. wide).

Calyx segments elongate unequally in fruit.

Look-alike *Phacelia incana* has calyx segments that are more or less equal in fruit.



MANY-FLOWERED PHLOX

Phlox multiflora

PHMU

Polemoniaceae
phlox family

Range: Grande Ronde River, Oregon; Rocky Mountains of Idaho, Montana, Nevada, and Colorado. Possibly throughout the Blue and Wallowa Mountains.

Habitat: Dry, rocky areas; cliffs to ridgetops and open slopes. From foothills to high mountains. Wooded, rocky areas as well as open sites. Loose substrate rather than exposed hard rock. Our known site is at low elevation (3,500 feet), but the species ranges up to alpine sites in the Rockies.

Look-alikes: Several other phloxes are similar; but none of the cushiony species have such long leaves and non-hairy calyxes.

Notes: Blooms May to June. This is a Rocky Mountain species with one known disjunct site west of LaGrande.

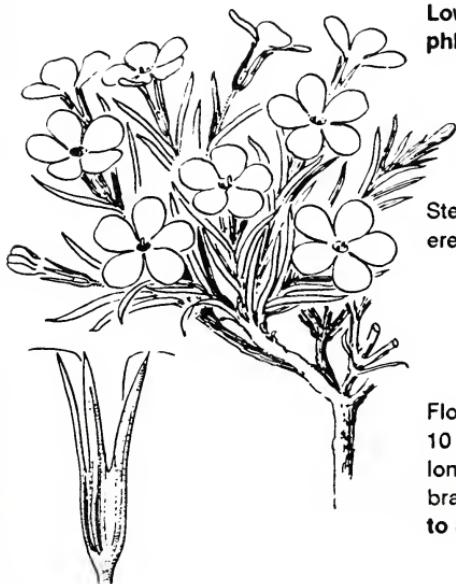


Joe Duff

MANY-FLOWERED PHLOX

PHMU

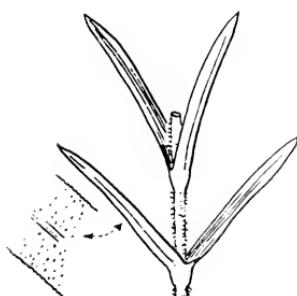
Phlox multiflora



Low-growing, white to lilac flowered phlox (less than 10 cm. tall).

Stems numerous, sometimes sub-erect.

Flowers 1 to 3 per stem, corolla tube 10 to 14 mm. long, lobes 6 to 11 mm. long. **Calyx non-hairy**, with flat membranes between the sepals. **Styles 5.5 to 8 mm. long.**



Leaves needle-like (10 to 30 mm. long by 1 to 2 mm. wide). Leaves not hairy or glandular, but with tiny roughened spots (scabерulous).

Tap-rooted perennial, forming dense mats.

COMMON TWINPOD

Physaria didymocarpa var. *didymocarpa*

PHDI2

Brassicaceae (Cruciferae)

mustard family

Range: Eastern Washington to Alberta, Montana, and Wyoming.

Habitat: Rocky outcroppings and talus slopes; subalpine fir zone. Moderate to high elevations (6000 feet).

Look-alikes: *Physaria oregana*.

Notes: Blooms June to July. Washington-sensitive only. Not known from Oregon. The fruits of this species are extremely important in its accurate identification.



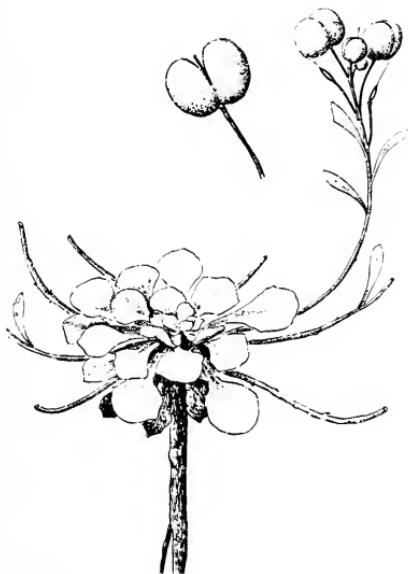
Karl Urban

COMMON TWINPOD

PHDI2

Physaria didymocarpa var. *didymocarpa*

Small, perennial, hairy mustard from a branched caudex; with many stems (each stem 2 to 17 cm. long).



Flowers are bright yellow and four-parted.

Fruits are round, two-lobed, inflated and have a deep apical notch from which the style arises. The style is longer than 5 mm.

Leaves are silvery-gray and form a rosette. They are spatula-shaped and narrowed abruptly to a petiole. The stem leaves are obovate and sessile.

Look-alike *Physaria oregana* has compressed fruits that are obtuse to truncate at the base. It also has a style that is shorter (1 to 2 mm. long).



SMALL NORTHERN BOG ORCHID

Platanthera obtusata

PLOB

(*Habenaria obtusata*)

Orchidaceae

orchid family

Range: Wallowa Mountains, Oregon; Alaska, Canada, Idaho, Montana, Colorado, Wisconsin, New York, and Europe. Possibly also throughout the Blue Mountains.

Habitat: Riparian forest, along creek edges, bogs, and wet meadows. Known sites are at moderate elevations (5,000 to 6,000 feet).

Look-alikes: Other bog orchids, but none of the others have the single basal leaf and only 3 to 15 flowers on the stalk.

Notes: Blooms in July.



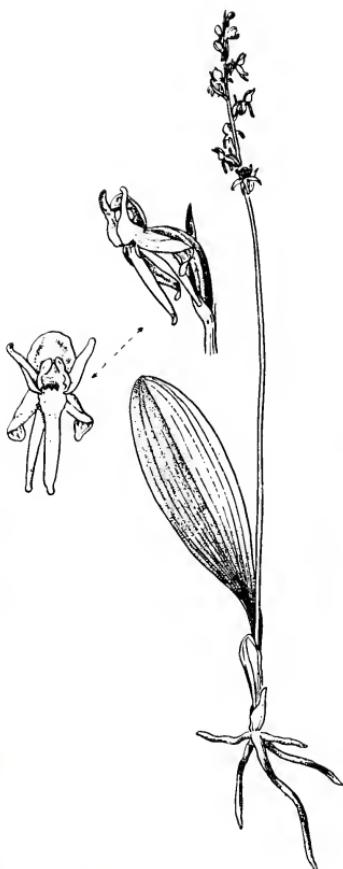
Joe Duff

SMALL NORTHERN BOG ORCHID

PLOB

Platanthera obtusata
(*Habenaria obtusata*)

Green-flowered bog orchid (plant 8 to 25 cm. tall).



Flower stalk without leaves, bears 3 to 15 greenish flowers. Flowers borne on short pedicels (1 to 5 mm. long).

Sepals of flowers three nerved; spur 5 to 8 mm. long, slightly curved. Sepals yellowish-green, the lip and petals whitish.

Single elliptical green leaf (rarely two leaves) with parallel venation borne at ground level (3 to 15 cm. long by 1 to 4 cm. wide). Leaf tapers gradually to the sheathing base.

CUSICK'S PRIMROSE

Primula cusickiana

PRCU

Primulaceae

primrose family

Range: Lower Wallowa Mountains, Oregon, Seven Devils Mountains, Idaho; west-central Idaho.

Habitat: Vernal wet scabs, seeps; and moist, rocky slopes. Thin, rocky soils. Usually open areas, but can be in small openings in pine forest. Known sites are at moderate elevations (4,500 to 7,000 feet).

Look-alikes: Flowers are distinctive; this is the only primrose in Oregon. Leaves of *Dodecatheon* spp. can be confused with the leaves of Wallowa primrose when they aren't in bloom.

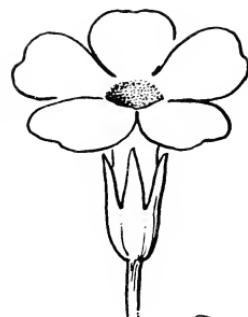
Notes: Blooms March through early June, often just as the snow melts. Plants dry out and die back early in the summer. Flowers are occasionally white.



CUSICK'S PRIMROSE

PRCU

Primula cusickiana



Fibrous rooted, non-hairy, perennial herb (up to 2 dm. tall).

Flowering stems lack leaves; 1 to 4 flowers per stem.

Corolla very showy (up to 15 mm. long), bluish-violet with yellow in the throat.



Fruiting capsule globose, formed within the calyx. Capsule splitting by long slits along the sides.

Leaves in a basal rosette, oblanceolate to spatulate; mostly entire or shallowly toothed (1.5 to 5 cm. long).

Leaves of look-alikes *Dodecatheon* spp. are very similar but the flowers are very different, and the fruits open at the top.

BLUE MOUNTAIN BUTTER-CUP

Ranunculus oresterus

RAOR2

Ranunculaceae

butter-cup family

Range: Blue and Wallowa Mountains, Oregon; west-central Idaho.

Habitat: Vernal wet scabs, and moist rocky slopes. Wet mountain meadows. Known sites are at moderate elevations (4,500 to 6,500 feet).

Look-alikes: *Ranunculus alismaefolius*, *Ranunculus populago*. Most other buttercups have lobed or compound leaves.

Notes: Blooms April through May, often just as the snow melts. Plants dry out and die back early in the summer. Our specimens often have more than fifteen stamens per flower (as opposed to less than 15 as described in Hitchcock). Be sure to get roots when collecting voucher specimens.



Paula Brooks

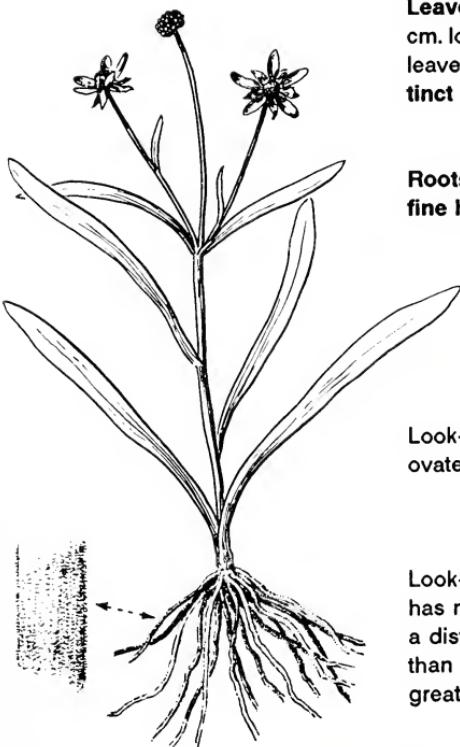
BLUE MOUNTAIN BUTTER-CUP

RAOR2

Ranunculus oresterus

Perennial, leafy-stemmed buttercup
(up to 15 cm. tall).

Flowers 3 to 15 per stem, with five yellow sepals and 5 smaller petals
(petals less than 5 mm. long).



Leaves linear to oblanceolate (3 to 7 cm. long; up to 10 mm. wide). Base of leaves narrowed, but without a distinct petiole.

Roots fibrous, densely covered with fine hairs.

Look-alike *Ranunculus populago* has ovate to heart-shaped basal leaves.

Look-alike *Ranunculus alismaefolius* has non-hairy roots; leaves that have a distinct petiole, with blades greater than 1 cm. wide; and petals are greater than 5 mm. long.

UMATILLA GOOSEBERRY

Ribes cognatum

RICO

Grossulariaceae
gooseberry family

Range: Picture Gorge, John Day River, Oregon; northeastward into extreme Southeastern Washington and adjacent Northern Idaho.

Habitat: Along streams primarily within the ponderosa pine zone. Low elevation sites (1000 to 2700 feet).

Look-alikes: Other spiny *Ribes* spp.; but none have the combined characters outlined here.

Notes: Blooms in April, May, or early June depending upon elevation and weather conditions. Fruits mature in late July. Flower characteristics should be used for accurate identification. Washington-sensitive only. Fairly common in Northeastern Oregon.



Karl Urban

UMATILLA GOOSEBERRY

RICO

Ribes cognatum

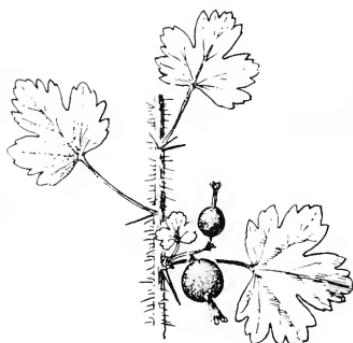
An early-blooming, spiny shrub (up to 3 m. tall).



Flowers are tubular and pink to pinkish-white and usually droop within 3-5 flowered inflorescences. The hypanthium is tubular rather than saucer-shaped.



Styles are separate for at least 1/4 of their length and they are hairy on the lower half.



Stamens equal to, or slightly longer than the petals; not conspicuously exserted.

Fruits are bluish-black berries.

Stem has 1 to 3 stout spines at the nodes and prickles in the internodal regions.

WOLF'S Currant

Ribes wolfii

RIWO

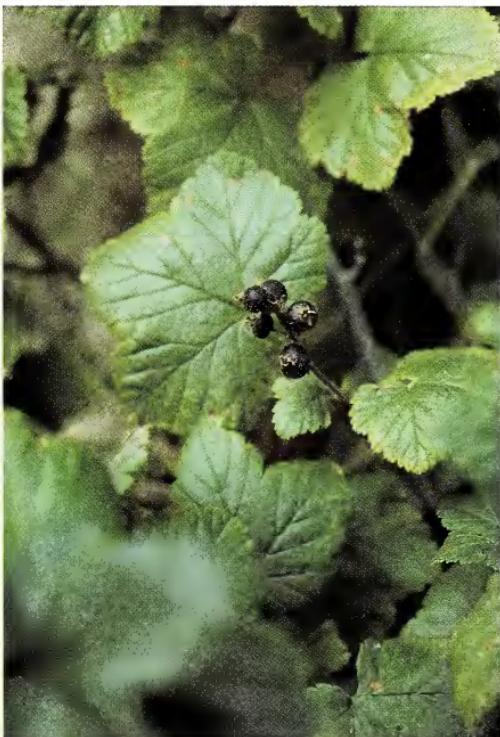
Grossulariaceae
gooseberry family

Range: Extreme Southeastern Washington southeastward into Idaho, and New Mexico. Known from Hell's Canyon NRA in Idaho; fairly common in Asotin Creek and Tucannon River drainages in Southeastern Washington.

Habitat: Understory shrub in subalpine fir stands; occasionally in fractured basalt. Moderate elevations (4000 to 5600 feet).

Look-alikes: Other non-spiny currants, especially *Ribes viscosissimum*.

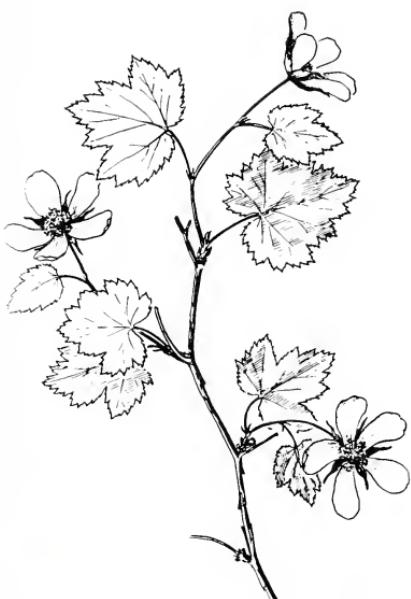
Notes: Blooms very early (April to May), when many roads to its habitat are often still blocked. Fruits usually mature by early August. Flower characteristics should be used for accurate identification. Oregon and Idaho sensitive only. Has never been found yet in Oregon.



Karl Urban

BARTONBERRY

RUBA



Rubus bartonianus

Non-prickly shrub (up to 3 m. tall).
Old bark straw-colored and shredding
at the base.

**Flowers white, showy, single and
terminal; calyx hairy, lobes reflexed.
Styles hairy their full length.**

Fruit a deep red raspberry.

Leaves cordate (up to 5 cm. long),
with 5 to 7 palmate lobes, edges ser-
rated.

Numerous arching branches from a
common base. Often forms thickets.



Look-alike *Physocarpus malvaceus*
has several flowers per head, and has
dry fruits.

Look-alike *Rubus parviflorus* has sev-
eral flowers per head, and non-hairy
style tips.

FARR'S WILLOW

Salix farriae

SAFA

Salicaceae

willow family

Range: Wallowa Mountains, Oregon; Alaska, through Canada, western Montana, western Wyoming, and northern Idaho.

Habitat: Wet meadows, lakeshores, and streambanks. High elevations in our area (7,000 to 8,000 feet).

Look-alikes: Most willows in our area are taller than this species. Use of a technical key is necessary for positive identification.

Notes: When collecting this plant for verification, be sure to get both male and female specimens.

FARR'S WILLOW

SAFA

Salix farriae



Low shrub (up to 1 m. tall). Twigs dark red and shiny.

Leaves non-hairy when mature, powdery-white on bottom. Leaves elliptic (up to 7 cm. long by 2 cm. wide), edges nearly entire.

Ovary and fruits non-hairy. Scales brown or blackish, persistent, hairy on the inside. Style short (.4 to .7 mm. long).

Female flower heads 1.5 to 3 cm. long at maturity.

Male flower heads 1 to 2 cm. long, two stamens per flower. Filaments non-hairy.

WEDGE-LEAF SAXIFRAGE

Saxifraga adscendens var. *oregonensis*

SAADO

Saxifragaceae

saxifrage family

Range: Wallowa and Steens Mountains, Oregon; Canada to the North Cascades of Washington, Rocky Mountains in Utah, Colorado, and Idaho.

Habitat: Glacial moraines, rock crevices, and alpine gravelly meadows. Moist meadows where slumping has occurred along drainages and rim-rock. Damp cliffs where soil has accumulated. High elevation sites (7,500 to 9,000 feet).

Look-alikes: *Saxifraga bronchialis*, *Saxifraga caespitosa*, *Saxifraga oppositifolia*.

Notes: Blooms in August. The last known sighting of this species in north-eastern Oregon was in 1933 in the Eagle Cap Wilderness.



Bob Moseley

WEDGE-LEAF SAXIFRAGE

SAADO

Saxifraga adscendens var. *oregonensis*



Small (5 to 10 cm. tall), glandular-hairy, perennial. Plants reddish-tinged overall.

Ovary nearly completely inferior.

Calyx reddish-purple, campanulate; free lobes equal to the tubular portion. Petals white, deciduous, 2 to 3 times longer than calyx lobes.

Plants single stemmed; less than ten flowers per stem.

Leaves form a rosette at base of plant. Leaf blades obovate (5 to 15 mm. long), entire to shallowly three toothed or lobed. Leaves present on stem.

Look-alike *Saxifraga bronchialis* has narrow, needle-like leaves; and the petals are red-spotted.

Look-alike *Saxifraga oppositifolia* has purple flowers and opposite leaves.

Look-alike (*Saxifraga caespitosa*) is strongly tufted, has greenish calyx lobes, and lobed rather than toothed leaves.

PAYSON'S GROUNDSEL

Senecio dimorphophyllus var. *paysonii*

SEDI2

Asteraceae (Compositae)

sunflower family

Range: Wallowa Mountains, Oregon; Rocky Mountains of Montana, Idaho, Utah, Nevada, and Colorado.

Habitat: Moist, sub-alpine to alpine meadows; to rocky, open slopes. High elevation sites (7,000 to 9,000 feet).

Look-alikes: Other groundsels look very similar. Use of a technical key and expert verification are necessary for this species.

Notes: Blooms in August. This is a disjunct species from the Rockies. It has been found only once in the Wallowas. It is not in the local floras. Voucher specimens are critical for this species.



PAYSON'S GROUNDSEL

SEDI2

Senecio dimorphophyllus var. *paysonii*

Small (1 to 2 dm. tall), non-hairy, perennial forb.

One to six flower heads per stalk.
Ray flowers yellow.

Basal leaves oval, with scalloped edges; narrowing at the base to a winged petiole. Stem leaves clasping and lobed.

PORTER'S BUTTERWEED

Senecio porteri

SEPO

Asteraceae (Compositae)
sunflower family

Range: Wallowa Mountains, Oregon; Rocky Mountains, Colorado.

Habitat: Open, rocky sites. In talus or scree substrate. Sub-alpine to alpine habitats. High elevations in our area (7,000 to 9,000 feet).

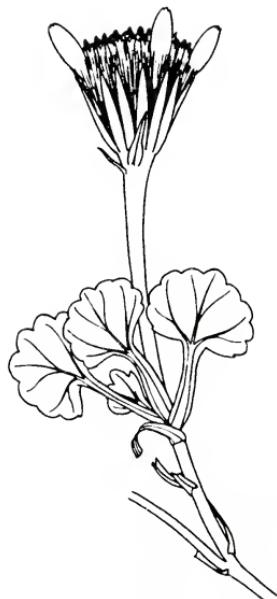
Look-alikes: *Hulsea algida*, *Hulsea nana*, *Senecio cymbalariaeoides*.

Notes: Blooms in August. This species was last documented in the Wallowas in the 1930s. Voucher specimens are critical for this species.

PORTER'S BUTTERWEED

SEPO

Senecio porteri



Very small (3 to 8 cm. tall), fibrous-rooted perennial forb.

Plants non-hairy throughout.

Flower heads relatively large; borne singly, on a non-leafy stem.

Look-alike *Senecio cymbalariaoides* can have only one head, but it is taller, has leaves on the stem, and grows in wetter environments.

Rays 8 to 10 per flower, each ray 10 mm. long. Involucre often somewhat purplish (1 cm. long).

Leaves thick and succulent, roundish to kidney shaped (up to 2.5 cm. wide), crowded at the base of the plant. Edges finely scalloped.

Look-alikes *Hulsea algida* and *Hulsea nana* are hairy throughout; are larger, and have leaves that are much longer and narrower.

Spreads by slender rhizomes.

SPALDING'S SILENE

Silene spaldingii

Caryophyllaceae

pink family

SISP2

Range: Wallowa Valley, Oregon; southeastern Washington, western Idaho, and western Montana.

Habitat: Native, undisturbed, prairie grasslands. Grows on wind deposited loamy soils. Known sites in northeastern Oregon are on glacial moraines or remnant palouse grasslands. Associated with the Idaho fescue-junegrass (*Festuca idahoensis-Koeleria cristata*) plant community. Other associated species include roses, snowberry, hawthorne, western needlegrass, and prairie smoke. Known sites are at low to moderate elevations (1,200 to 4,500 feet).

Look-alikes: Other silenes have similar flowers, but none of them have such short petal blades, and the others all have only two appendages on the petals. Douglas' silene (*Silene douglasii*) is totally non-glandular.

Notes: Blooms June to September. The only known populations in northeastern Oregon are all on private land in Wallowa County.



Bonnie Hiedel

SPALDING'S SILENE

SISP2

Silene spaldingii



Perennial forb from a woody base (2 to 6 dm. tall).

Plant is very sticky overall; covered with long, thick, white, glandular hairs.

Flowers several in a leafy and compact cyme. **Calyx hairy** (15 mm. long), tubular to campanulate. Corolla white (claws of petals 15 mm. long), with four short appendages; barely showing outside the calyx. Petal blades entire (1 to 2 mm. long).

Four to seven pairs of oblanceolate to lanceolate **leaves** (3 to 7 cm long by .5 to 1.5 cm wide) **borne sessile and opposite each other on swollen nodes of the stem.**

SUBALPINE SPIRAEA

Spiraea densiflora var. *splendens*

SPDES

Rosaceae

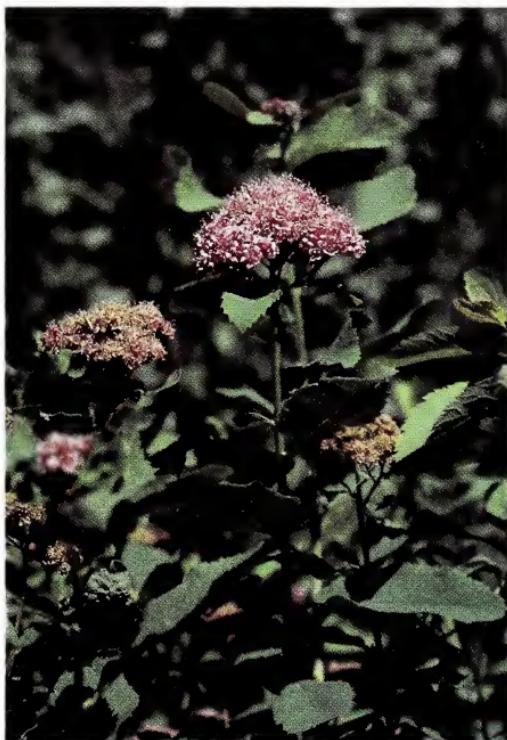
rose family

Range: Known only from the type specimen locality near Table Rock, Columbia County, Washington.

Habitat: Seeps and crevices; occasionally within alder snowslides. Moderate to high elevations (6000 feet).

Look-alikes: *Spiraea betulifolia*, and *Spiraea densiflora* var. *densiflora*, the common variety.

Notes: Blooms in July and the blossoms sometimes persist for several weeks. Washington-sensitive only. Because of taxonomic problems only specimens from the type specimen locality should be considered as the sensitive variety.

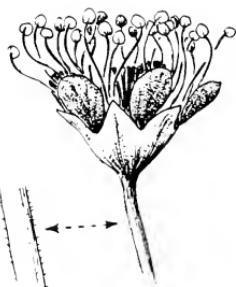


Karl Urban

SUBALPINE SPIRAEA

SPDES

Spiraea densiflora var. *splendens*



A reddish-barked shrub with intertwining stems (up to 1 m. tall).

Flowers are deep-pink and are borne in dense, flat-topped cymes. Accurate identification of the sensitive variety requires microscopic examination of the inflorescence for short, straight hairs.



Leaves are oval-shaped, somewhat bluish-green, and have serrulate margins. The undersurface of the leaves must be examined microscopically for the presence of short, straight hairs in order to accurately determine the sensitive variety.

Plants are much taller than look-alike birch leaf spiraea (*Spiraea betulifolia*).

DWARF OR ALPINE MEADOWRUE

Thalictrum alpinum var. *hebetum*

THALH

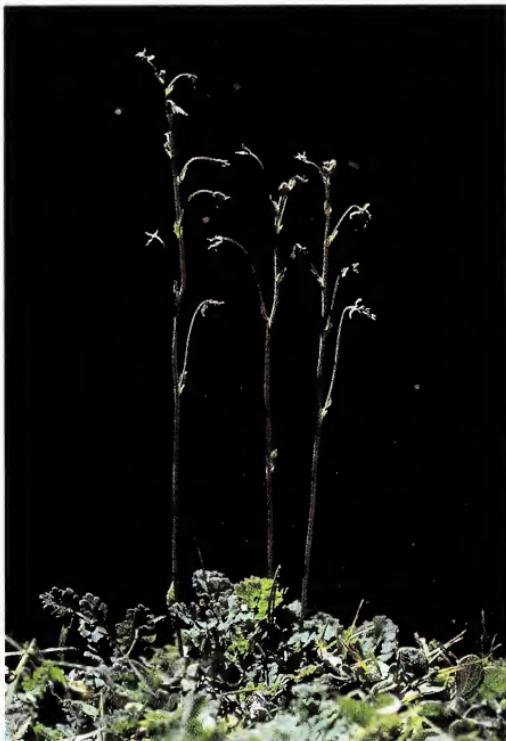
Ranunculaceae
buttercup family

Range: Wallowa Mountains, Oregon; across Canada, through the Rocky Mountains from Idaho to New Mexico, California, Nevada, and Utah.

Habitat: Wet meadows and bogs, moist stream banks. Known sites in our area are at high elevations (7,000 to 8,500 feet).

Look-alikes: Other *Thalictrums*, leaves of *Aquilegia* spp..

Notes: Blooms July to August. The small size and perfect flowers readily distinguish this species from other meadowrues.



Joe Duff

DWARF OR ALPINE MEADOWRUE

THALH

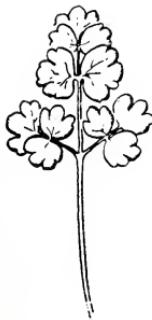
Thalictrum alpinum var. *hebetum*



Non-hairy, glaucous perennial forb (3 to 18 cm. tall).



Flowers with both male and female parts. Sepals grayish purple; stamens 8 to 15 per flower, **anthers 1.5 mm. long.**



Flowering stem without leaves; or with one small leaf. Racemes long and loose.



Leaves deeply divided, triangular in outline. Leaf segments 3 to 8 mm. long, leathery, pale green above and even paler beneath.



Look-alikes *Thalictrum* spp. have mostly either male or female flowers on any given plant; they also have leaves on the flowering stems and/or have anthers less than 1 mm.

The leaves of look-alikes *Aquilegia* spp. are similar, but the plants are much larger in general and the flowers are very different.

ARROW-LEAVED THELYPODY

Thelypodium eucosmum
Brassicaceae (Cruciferae)
mustard family

THEU

Range: John Day River, Painted Hills, and Canyon Mountain areas of central Oregon. Currently known from Grant and Wheeler Counties, Oregon.

Habitat: Dry slopes of lower elevation canyons, often in vernal drainages. Found in open juniper, ponderosa pine, and dry Douglas-fir sites. Soils and substrates various. Known sites are low to moderate elevations (1,800 to 4,900 feet).

Look-alikes: *Thelypodium spp.*, *Arabis spp.*

Notes: Blooms May to July. Fruiting pods greatly aid identification. Late summer rains have been known to induce post-season flowering.

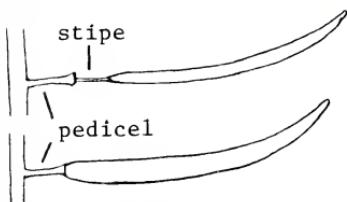


Greg Lind

ARROW-LEAVED THELYPODY

THEU

Thelypodium eucosmum



Biennial to perennial forb, 20-60 cm. tall.

Fruit a silique (3 to 4.5 cm. long), borne on a stipe (1 to 11 mm. long), curved upward.



Look-alikes *Arabis spp.* lack a stipe on the fruit.

Inflorescence a densely flowered raceme. Flowers mature from bottom to top. Petals 4, lilac-purple.

Stem leaves arrow-shaped, the bases clasping the stem somewhat (2 to 7 cm. long). Usually with a glaucous (blue-grey) cast.

Basal leaves lanceolate to oblanceolate (2 to 5 cm. long).

Creeping, horizontal rootstock.

HOWELL'S THELYPODY

Thelypodium howellii ssp. *howellii*
Brassicaceae (Cruciferae)
mustard family

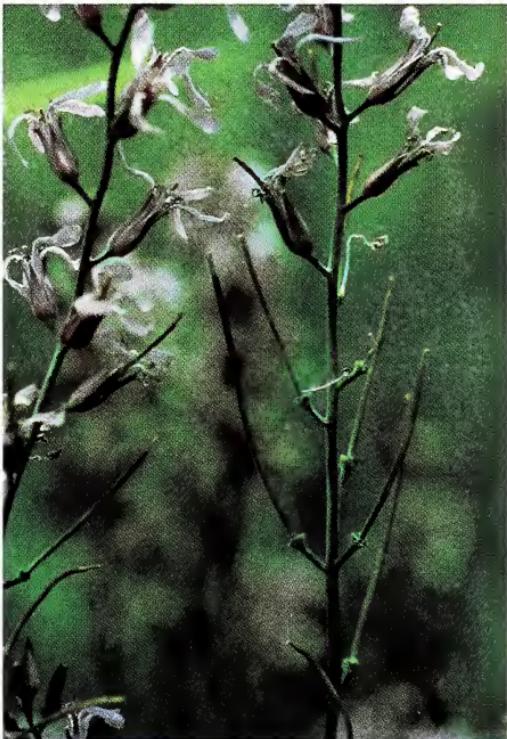
THHOH

Range: Northeastern Oregon; south and east to northeast California.

Habitat: River valleys and moist, often alkaline, plains.

Look-alikes: *Arabis* spp., other *Thelypodium* species.

Notes: Blooms May through July.



Julie Kierstead

HOWELL'S THELYPODY

THHOH

Thelypodium howellii ssp. *howellii*



Biennial herb, 30-70 cm. tall.

Inflorescence a raceme, somewhat loosely flowered. **Flowers lavender-tinged**, petals 8 to 12 mm. long.

Look-alike *Thelypodium howellii* var. *spectabilis* is larger overall, and has more deeply colored petals (16 to 20 mm. long.).

Cauline leaves narrowly oblong, often clasping (1.5 to 3 cm. long).

Stem branched below.

Basal leaves in a rosette, oblanceolate, with **lobed margins** (2 to 4 cm. long).

Fruit a silique, borne on a short stipe (0.5 mm. long).

GLOBEFLOWER

Trollius laxus var. *albiflorus*

TRLAA

Ranunculaceae
buttercup family

Range: Wallowa Mountains and Hell's Canyon NRA, Oregon; Seven Devils Mountains, Idaho; Olympic and Cascade Mountains of Washington and British Columbia, east to Connecticut, south in the Rocky Mountains to Utah and Colorado.

Habitat: Bogs, wet meadows, lake shores, riparian zones, and moist slopes. Known sites in our area are at moderate elevations (6,500 to 7,500 feet).

Look-alikes: *Caltha biflora*, *Caltha leptosepala*. The leaves of several other plants in the buttercup family look similar, but their flowers are usually spurred, or bilaterally symmetrical; or they have one-seeded achenes for fruits.

Notes: Usually blooms as the snow recedes, anywhere from May to August, depending on the elevation and type of year.



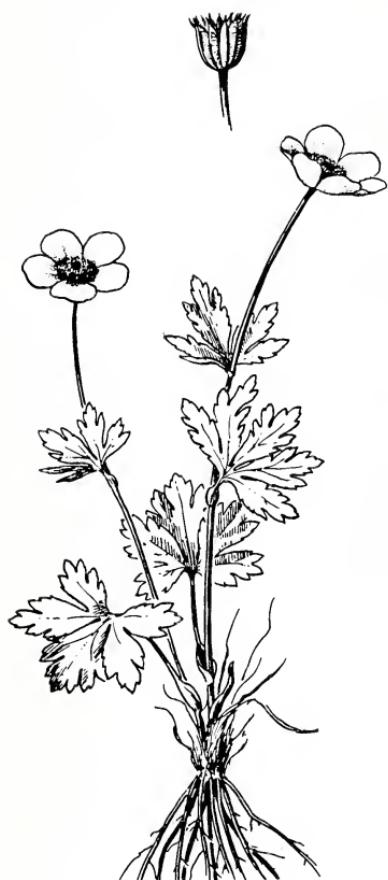
Bob Moseley

GLOBEFLOWER

TRLAA

Trollius laxus var. *albiflorus*

Non-hairy perennial forb with strongly fibrous roots (1 to 4 dm. tall).



Flowers solitary, large and showy.
Sepals greenish-white to cream colored (10 to 20 mm. long). Sepals look like petals; but there are no petals on this species.

Fruit a many-seeded follicle, with strong nerves across it.

Stamens numerous, the outer ones modified into staminodia.

Leaves palmately cleft into 3 to 5 lobed segments. Leaves on the stem sessile.

The flowers of look-alikes *Caltha biflora* and *Caltha leptosepala* are similar, but they have leaves that are round to cordate.

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